STATE OF NEW HAMPSHIRE
INTER-DEPARTMENT COMMUNICATION

DATE: October 31, 2019

FROM: Andrew O'Sullivan
Wetlands Program Manager

AT (OFFICE): Department of Transportation
Bureau of Environment

SUBJECT Dredge & Fill Application
Gilmanton, 2019-M315-1

TO Craig Rennie, Inland Wetland Supervisor
New Hampshire Wetlands Bureau
29 Hazen Drive, P.O. Box 95
Concord, NH 03302-0095

Forwarded herewith is the application package prepared by NH DOT District 3 for the subject minor impact project. This project is classified as minor per Env-Wt 303.03(h)(k)(l). The project is located on NH Route 129 in the Town of Gilmanton, NH. The proposed work consists of replacement of an existing 24"W x 44'L RCP culvert in kind and modifying and existing 2.5'H x 3.5'W stone box culvert by extending the outlet by 4' to provide a safer road shoulder.

This project was reviewed at the Natural Resource Agency Coordination Meeting on August 21, 2019. A copy of the minutes has been included with this application package. A copy of this application and plans can be accessed on the Departments website via the following link: http://www.nh.gov/dot/org/projectdevelopment/environment/units/program-management/wetland-applications.htm

Mitigation is not required.

The lead people to contact for this project are William Rollins, Highway Maintenance District 3 (448-2654 or william.rollins@dot.nh.gov) or Sarah Large, Wetlands Program Analyst, Bureau of Environment (271-3226 or sarah.large@dot.nh.gov).

A payment voucher has been processed for this application (Voucher #) in the amount of $200.

If and when this application meets with the approval of the Bureau, please send the permit directly to Andrew O'Sullivan, Wetlands Program Manager, Bureau of Environment.

AMO:sel
Enclosures

cc:
BOE Original
Town of Gilmanton (4 copies via certified mail)
David Trubey, NH Division of Historic Resources (Cultural Review Within)
Carol Henderson, NH Fish & Game (via electronic notification)
Maria Tur, US Fish & Wildlife (via electronic notification)
Mark Kern, US Environmental Protection Agency (via electronic notification)
Michael Hicks, US Army Corp of Engineers (via electronic notification)
Kevin Nyhan, BOE (via electronic notification)

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NHDES-W-06-012

WETLANDS PERMIT APPLICATION

Water Division/ Wetlands Bureau
Land Resources Management

Check the status of your application: www.des.nh.gov/onestop

RSA/Rule: RSA 482-A/ Env-Wt 100-900

Application Use Only	Administrative Use Only	Administrative Use Only	File No. / Check No. / Amount / Initials

1. REVIEW TIME: Indicate your Review Time below. To determine review time, refer to Guidance Document A for instructions.

☒ Standard Review (Minimum, Minor or Major Impact) ☐ Expedited Review (Minimum Impact only)

2. MITIGATION REQUIREMENT:

If mitigation is required, a Mitigation-Pre Application meeting must occur prior to submitting this Wetlands Permit Application. To determine if mitigation is required, please refer to the Determine if Mitigation is Required Frequently Asked Questions.

Mitigation Pre-Application Meeting Date: Month: 8 Day: 21 Year: 2019

☒ N/A - Mitigation is not required

3. PROJECT LOCATION:

Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.

ADDRESS: **NH Route 129** TOWN/CITY: **Gilmanton**

TAX MAP: **N/A** BLOCK: **N/A** LOT: **N/A** UNIT: **N/A**

USGS TOPO MAP WATERBODY NAME: **Rollins Pond & un-named stream** ☐ NA

STREAM WATERSHED SIZE: **0.22/0.89 sq.mi.** ☐ NA

LOCATION COORDINATES (If known): **-71.367053 43.367086/-71.371615 43.361978**

☒ Latitude/Longitude ☐ UTM ☐ State Plane

4. PROJECT DESCRIPTION:

Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

Replacement of two culverts which carry un-named streams under NH Route 129 in Gilmanton. Culvert 1 will replace a 24" wide X 44' long rcp culvert in-kind which carries an un-named tributary to Rollins Pond. Culvert 2 will extend an existing 2.5'H x 3.5'W stone box culvert up to 4' at outlet which carries an un-named tributary to Sanborn Brook.

5. SHORELINE FRONTAGE:

☐ N/A This does not have shoreline frontage. SHORELINE FRONTAGE: **8**

Shoreline Frontage is calculated by determining the average of the distances of the actual natural navigable shoreline frontage and a straight line drawn between the property lines, both of which are measured at the normal high water line (Env-Wt 101.89).

6. RELATED NHDES LAND RESOURCES MANAGEMENT PERMIT APPLICATIONS ASSOCIATED WITH THIS PROJECT:

Please indicate if any of the following permit applications are required and, if required, the status of the application.

To determine if other Land Resources Management Permits are required, refer to the Land Resources Management Webpage.

Permit Type	Permit Required	File Number	Permit Application Status
Alteration of Terrain Permit Per RSA 485-A:17	☐ YES ☒ NO		☐ APPROVED ☐ PENDING ☐ DENIED
Individual Sewerage Disposal per RSA 485-A:2	☐ YES ☒ NO		☐ APPROVED ☐ PENDING ☐ DENIED
Subdivision Approval Per RSA 485-A	☐ YES ☒ NO		☐ APPROVED ☐ PENDING ☐ DENIED
Shoreland Permit Per RSA 483-B	☐ YES ☒ NO		☐ APPROVED ☐ PENDING ☐ DENIED

7. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:

See the instructions & Required Attachments document for instructions to complete a & b below.

a. Natural Heritage Bureau File ID: NHB 19 - 0758

b. ☐ This project is within a Designated River corridor. The project is within ¼ mile of: _____ ; and date a copy of the application was sent to the Local River Management Advisory Committee: Month: __ Day: __ Year: ____

☒ N/A – This project is not within a Designated River corridor.

8. APPLICANT INFORMATION (Desired permit holder)

LAST NAME, FIRST NAME, M.I.: **NH Department of Transportation**

TRUST / COMPANY NAME: **NH Department of Transportation** | MAILING ADDRESS: **7 Hazen Drive, PO Box 483**

TOWN/CITY: **Concord** | STATE: **NH** | ZIP CODE: **03302-0483**

EMAIL or FAX: **David.Silvia@dot.nh.gov** | PHONE: **(603)524-6667**

ELECTRONIC COMMUNICATION: By initialing here: **DS**, I hereby authorize NHDES to communicate all matters relative to this application electronically.

9. PROPERTY OWNER INFORMATION (If different than applicant)

LAST NAME, FIRST NAME, M.I.: **NH Department of Transportation**

TRUST / COMPANY NAME: **NH Department of Transportation** | MAILING ADDRESS:

TOWN/CITY: **Concord** | STATE: **NH** | ZIP CODE: **03302**

EMAIL or FAX: **Sarah.Large@dot.nh.gov** | PHONE: **271-3226**

ELECTRONIC COMMUNICATION: By initialing here **SL**, I hereby authorize NHDES to communicate all matters relative to this application electronically.

10. AUTHORIZED AGENT INFORMATION

LAST NAME, FIRST NAME, M.I.: | COMPANY NAME:

MAILING ADDRESS:

TOWN/CITY: | STATE: | ZIP CODE:

EMAIL or FAX: | PHONE:

ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize NHDES to communicate all matters relative to this application electronically.

11. PROPERTY OWNER SIGNATURE:

See the Instructions & Required Attachments document for clarification of the below statements

By signing the application, I am certifying that:

1. I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.
2. I have reviewed and submitted information & attachments outlined in the Instructions and Required Attachment document.
3. All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900.
4. I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type.
5. I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative.
6. Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47.
7. I have submitted a Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) to the NH State Historic Preservation Officer (SHPO) at the NH Division of Historical Resources to identify the presence of historical/ archeological resources while coordinating with the lead federal agency for National Historic Preservation Act (NHPA) 106 compliance.
8. I authorize NHDES and the municipal conservation commission to inspect the site of the proposed project.
9. I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate.
10. I understand that the willful submission of falsified or misrepresented information to the NHDES is a criminal act, which may result in legal action.
11. I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining.
12. The mailing addresses I have provided are up to date and appropriate for receipt of NHDES correspondence. NHDES will not forward returned

Property Owner Signature	Print name legibly	Date
		/ /

MUNICIPAL SIGNATURES

12. CONSERVATION COMMISSION SIGNATURE

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.

	Print name legibly	Date
⇨		

DIRECTIONS FOR CONSERVATION COMMISSION

1. Expedited review ONLY requires that the conservation commission's signature is obtained in the space above.
2. Expedited review requires the Conservation Commission signature be obtained **prior** to the submittal of the original application to the Town/City Clerk for signature.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will be reviewed in the standard review time frame.

13. TOWN / CITY CLERK SIGNATURE

As required by Chapter 482-A:3 (amended 2014), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

	Print name legibly	Town/City	Date
⇨			

DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3,I

1. For applications where "Expedited Review" is checked on page 1, if the Conservation Commission signature is not present, NHDES will accept the permit application, but it will NOT receive the expedited review time.
2. IMMEDIATELY sign the original application form and four copies in the signature space provided above;
3. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
4. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board; and
5. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:

1. Submit the single, original permit application form bearing the signature of the Town/ City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery.

14. IMPACT AREA:

For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact.

Permanent: impacts that will remain after the project is complete.

Temporary: impacts not intended to remain (and will be restored to pre-construction conditions) after the project is completed.

Intermittent Streams: linear footage distance of disturbance is measured along the thread of the channel.

Perennial Streams/ Rivers: the total linear footage distance is calculated by summing the lengths of disturbance to the channel and each bank.

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.		TEMPORARY Sq. Ft. / Lin. Ft.	
Forested wetland		☐ ATF		☐ ATF
Scrub-shrub wetland		☐ ATF		☐ ATF
Emergent wetland		☐ ATF	24	☐ ATF
Wet meadow		☐ ATF		☐ ATF
Intermittent stream channel	/	☐ ATF	/	☐ ATF
Perennial Stream / River channel	16 / 4	☐ ATF	10 / 1	☐ ATF
Lake / Pond	/	☐ ATF	56 / 8	☐ ATF
Bank - Intermittent stream	/	☐ ATF	/	☐ ATF
Bank - Perennial stream / River	36 / 14	☐ ATF	30 / 10	☐ ATF
Bank - Lake / Pond	/	☐ ATF	80 / 10	☐ ATF
Tidal water	/	☐ ATF	/	☐ ATF
Salt marsh		☐ ATF		☐ ATF
Sand dune		☐ ATF		☐ ATF
Prime wetland		☐ ATF		☐ ATF
Prime wetland buffer		☐ ATF		☐ ATF
Undeveloped Tidal Buffer Zone (TBZ)		☐ ATF		☐ ATF
Previously-developed upland in TBZ		☐ ATF		☐ ATF
Docking - Lake / Pond		☐ ATF		☐ ATF
Docking - River		☐ ATF		☐ ATF
Docking - Tidal Water		☐ ATF		☐ ATF
Vernal Pool		☐ ATF		☐ ATF
TOTAL	52 / 18		200 / 19	

15. APPLICATION FEE: See the Instructions & Required Attachments document for further instruction

☒ Minimum Impact Fee: Flat fee of $ 200

☐ Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking) _____ sq. ft. X $0.20 = $ _____

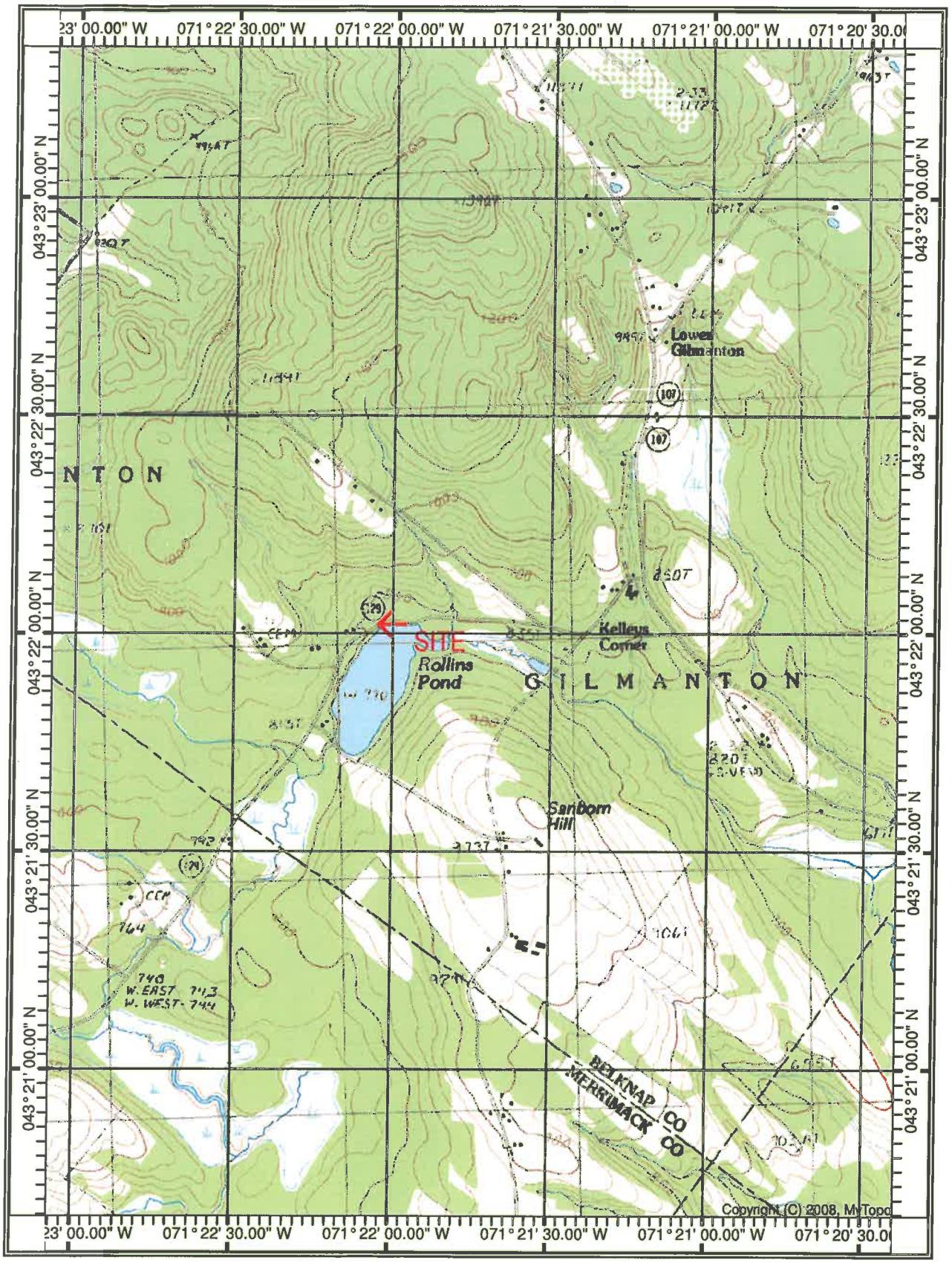
Temporary (seasonal) docking structure: _____ sq. ft. X $1.00 = $ _____

Permanent docking structure: _____ sq. ft. X $2.00 = $ _____

Projects proposing shoreline structures (including docks) add $200 = $ _____

Total = $ _____

The Application Fee is the above calculated Total or $200, whichever is greater = $ **200.00**



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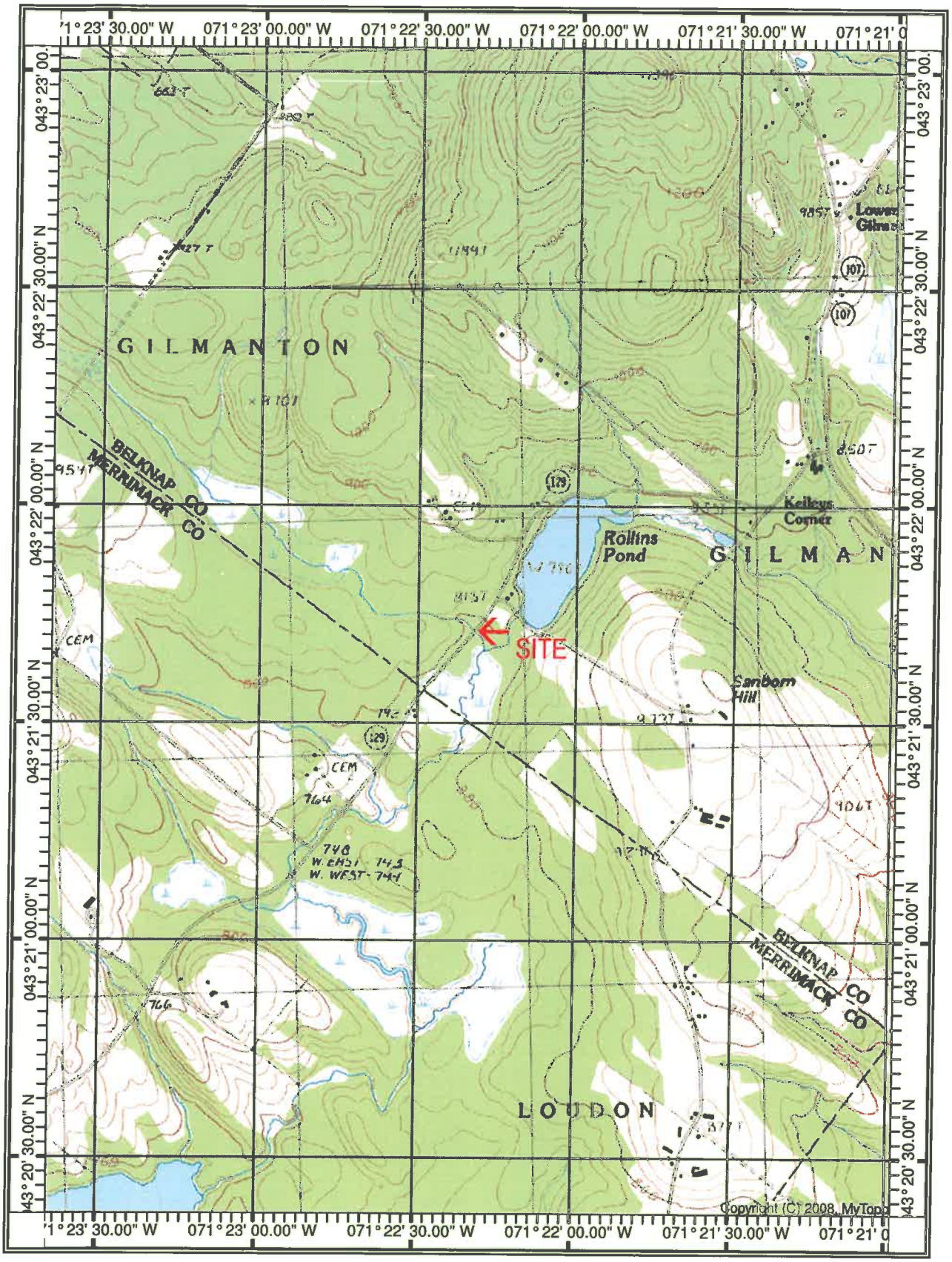
FEET

Culvert #1



SCALE 1:24000

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FEET

Culvert #2

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

WETLANDS PERMIT APPLICATION – ATTACHMENT A
MINOR AND MAJOR - 20 QUESTIONS

Land Resources Management
Wetlands Bureau

Check the Status of your application: www.des.nh.gov/onestop

RSA/ Rule: RSA 482-A, Env-Wt 100-900

Env-Wt 302.04 Requirements for Application Evaluation - For any major or minor project, the applicant shall demonstrate by plan and example that the following factors have been considered in the project's design in assessing the impact of the proposed project to areas and environments under the department's jurisdiction. Respond with statements demonstrating:

1. The need for the proposed impact.

The proposed project is to address two culverts in need of repair which carry un-named tributaries under NH Route 129 in Gilmanton.

Culvert #1: Replace a 24" X 44' long concrete culvert in-kind which carries an un-named tributary to Rollins Pond. The existing culvert has fallen into disrepair and is in need of replacement to ensure safe passage of vehicles along NH Route 129.

Culvert #2: extend an existing 3.5' wide by 2.5' high stone box culvert up to 4' at the outlet which carries an un-named tributary to Sanborn Brook. The extension will allow the road shoulder to match the adjacent shoulder on either side of the culvert and stop continued deterioration of the asphault above the existing culvert outlet.

Both repairs are necessary to maintain the integrity of the NH Route 129 and the safety of the traveling public.

Wetlands impacts are due to the replacement and extension of the existing structure.

2. That the alternative proposed by the applicant is the one with the least impact to wetlands or surface waters on site.

No action: Would result in continued deterioration of the existing infrastructure and potential for closure of the roadway due to safety concerns.

Culvert 1 repair: repair to the existing culvert was considered, but a field review found the deterioration from heavy truck traffic warrented a full replacement to maintain roadway crossing.

Culvert 1 replacement (prefered alternative): Replacement is prefered to address the defiiencies over the long term life of the crossing.

Culvert 2 realignment and replacement: An alternative design was to realign the stream channel to remove the sharp bends before and after the road crossing. This alternative was determined not to be preferred due to the additional impact to both the stream channel and associated bank.

Culvert 2 outlet extension (preferred alternative): The alternative to extend the existing stone box culvert by 4' to allow installation of a road shoulder, consistent with the adjacent road shoulder. This alternative will have minimal impact on the resource, while preserving the existing crossing infrastructure. The stream will continue to flow in the same path as is does today.

3. The type and classification of the wetlands involved.

Culvert 1:

PEM1E: Palustrine, Emergent, Persistent, Seasonaly Flooded/Saturated

L1UB12Hb: Lacustrine, Limnetic, Unconsolidated Bottom, Cobble-Gravel/Sand, Permanently Flooded with Beaver activity

Bank

Culvert 2:

R2UB12: Riverine, Lower Perennial, Unconsolidated bottom, Cobble-Gravel/Sand

Bank

4. The relationship of the proposed wetlands to be impacted relative to nearby wetlands and surface waters.

Culvert 1: The culvert drains an emergent marsh under Route 129 immediately into Rollins Pond. Rollins Pond drains to an un-named stream, which ultimately drains into Sanborn Brook approximately 0.9 miles from Rollins Pond.

Culvert 2: The culvert carries an un-named stream approx. 350 feet where it joins another un-named stream, which is also the outlet of Rollins Pond mentioned above. From this convergence the stream flows approx. 0.7 miles to the convergence with Sanborn Brook.

5. The rarity of the wetland, surface water, sand dunes, or tidal buffer zone area.

Neither un-named stream has been identified as a rare wetland or surface water.

6. The surface area of the wetlands that will be impacted.

Culvert 1: 24 s.f. / 3 l.f. to PEM1E, 56 s.f. / 8 l.f. to L1UB12Hb and 80 s.f. and 10 l.f. to Bank. All temporary impact.

Culvert 2: 16 s.f. / 4 l.f. to R2UB12 (permanent), 10 s.f. / 1 l.f. to R2UB12 (temporary), 36 s.f. / 14 l.f. to Bank (permanent), 30 s.f. / 10 l.f. (temporary)

7. The impact on plants, fish and wildlife including, but not limited to:
   a. Rare, special concern species;
   b. State and federally listed threatened and endangered species;
   c. Species at the extremities of their ranges;
   d. Migratory fish and wildlife;
   e. Exemplary natural communities identified by the DRED-NHB; and
   f. Vernal pools.

a. The results of the NH Natural Heritage Bureau database search (NHB19-0758 & NHB19-1155) resulted in no expected impacts from the proposed project.

b. No state listed species were identified in the project area. Results of the USFWS IPaC search identified the Northern long-eared bat (NLEB) on the Projects Official Species List and having potential to be present in the project area. Further review with the USFWS found that the project is consistent with the Programmatic Biological Opinion and the action is not prohibited under the Endangered Species Act 4(d) rule.

c. No species at the extremities of their range are known to occur in the project area.

d. Impacts to migratory fish and wildlife are not anticipated as the proposed work will not alter the flow of water, both velocity or location, within either un-named stream.

e. No exemplary natural communities were identified by the NH Natural Heritage Bureau (NHB19-0758 & NHB19-1155)

f. No vernal pools occur within the project area.

8. The impact of the proposed project on public commerce, navigation and recreation.

The project will not not negatively impact public commerce, navigation or recreation. No recreation facilities have been identified in the area, and the work to both culverts will maintain safe passage of vehicles along Route 129. Neither crossing is navigable by boat.

9. The extent to which a project interferes with the aesthetic interests of the general public. For example, where an applicant proposes the construction of a retaining wall on the bank of a lake, the applicant shall be required to indicate the type of material to be used and the effect of the construction of the wall on the view of other users of the lake.

The proposed project will not interfere with the aesthetic interests of the general public as Culvert 1 will replace the culvert in-kind and Culvert 2 will extend the existing stone box culvert with stones from a nearby culvert with similar shape and form.

10. The extent to which a project interferes with or obstructs public rights of passage or access. For example, where the applicant proposes to construct a dock in a narrow channel, the applicant shall be required to document the extent to which the dock would block or interfere with the passage through this area.

The proposed project will not interfere with the public's right of passage or access. Temporary lane-shift during construction will take place, and normal traffic patterns will resume once construction is complete.

11. The impact upon abutting owners pursuant to RSA 482-A:11, II. For example, if an applicant is proposing to rip-rap a stream, the applicant shall be required to document the effect of such work on upstream and downstream abutting properties.

The proposed work will not affect abutting property owners, and all work will be done within the existing State right-of-way. No changes to the flow or velocity are anticipated that would affect abutters.

Based on the culvert capacity analysis the extension of culvert #2 will not cause or contribute to flooding on the upstream or downstream abutters' property.

12. The benefit of a project to the health, safety, and well being of the general public.

The project will benefit the safety of the general public by repairing and replacing the existing infrastructure so the general public can continue to safely use the roadway for vehicular travel.

13. The impact of a proposed project on quantity or quality of surface and ground water. For example, where an applicant proposes to fill wetlands the applicant shall be required to document the impact of the proposed fill on the amount of drainage entering the site versus the amount of drainage exiting the site and the difference in the quality of water entering and exiting the site.

The proposed project will not significantly alter the quality or quantity of surface and ground water. Water will continue to drain from the surrounding landscape as it does today. Best Management Practices will be used during all phases of construction to prevent erosion and siltation into the adjacent water bodies.

14. The potential of a proposed project to cause or increase flooding, erosion, or sedimentation.

Flooding: The proposed work will not have an effect on the ability to pass the 100-year storm event as Culvert 1 will replace a culvert in-kind in a location with no history of flooding. Culvert 2 extension also has no history of flooding and the extension will not alter the flood capacity of the area.

Erosion: The proposed project will not increase erosion or sedimentation at either location. Culvert 1 will replace in-kind at a location with no history of erosion or sedimentation. Culvert 2 extension work will alleviate erosion and sedimentation by restoring the road shoulder which will lessen the ongoing deterioration of the roadway. All work will use BMP's during construction to protect the nearby surface waters during and after construction.

15. The extent to which a project that is located in surface waters reflects or redirects current or wave energy which might cause damage or hazards.

Surface waters will not be reflected or redirected as a result of this project. Culvert 1 will replace in-kind, resulting in no change. Culvert 2 is an extension to the existing culvert, and will not alter the current flow of the stream.

16. The cumulative impact that would result if all parties owning or abutting a portion of the affected wetland or wetland complex were also permitted alterations to the wetland proportional to the extent of their property rights. For example, an applicant who owns only a portion of a wetland shall document the applicant's percentage of ownership of that wetland and the percentage of that ownership that would be impacted.

All work will be done within the existing State ROW and no additional transportation related structures are nearby the project area and therefore will not effect additional landowners along either waterway.

17. The impact of the proposed project on the values and functions of the total wetland or wetland complex.

The proposed project will not impact the values and functions of the total wetland or wetland complex at either location. Both streams will retain the current value and functions and flow path and velocity will remain unchanged.

The palustrine wetland to the north of NH Route 129 serves several functions and values to include groundwater recharge/discharge, nutrient removal/retention/transformation, and sediment/shoreline stabilization. Rollins Pond provides fish habitat as well as habitat for other wildlife, nutrient removal, production export (food for wildlife), recreation, and visual quality/aesthetics.

18. The impact upon the value of the sites included in the latest published edition of the National Register of Natural Landmarks, or sites eligible for such publication.

No impact to the sites listed or eligible for inclusion in the National Register of Natural Landmarks based on NHDOT BOE Cultural program Review.

19. The impact upon the value of areas named in acts of congress or presidential proclamations as national rivers, national wilderness areas, national lakeshores, and such areas as may be established under federal, state, or municipal laws for similar and related purposes such as estuarine and marine sanctuaries.

Based on a GIS review there are no areas named in an act of Congress or Presidential proclamation as natural rivers, national wilderness area, or national lakeshores that will be impacted as a result of this project.

20. The degree to which a project redirects water from one watershed to another.

The project will not redirect water from one watershed to another.

Additional comments

Gilmanton #2019-M315-1 DRAFT Meeting Notes

Draft, not final review

Natural Resource Agency Meeting, August 21, 2019

Arin provided an overview and map of the proposed work on two culverts along Route 129 in Gilmanton. Culvert #1 will replace an existing 24" X 44' long concrete culvert in-kind and drains an adjacent emergent marsh into Rollins Pond. Culvert #2, located just south of Culvert #1, will extend the existing stone box culvert by 4' on the outlet side. Culvert 1 is a Tier 1 stream, while Culvert 2 is a Tier 2 stream and both drain into Sanborn Brook to the south.

Arin described Culvert 1 is located adjacent to Rollins Pond which drains an emergent marsh under Route 129. David explained the concrete pipe is separating due to heavy truck travel on the roadway. A basic work description was provided to include installation of a sandbag cofferdam to stop the flow of water and remaining water will be pumped out. The work will be phased to allow the roadway to remain open, and half the pipe will be installed at a time. The roadway will be opened to a width of 8' to allow for a trench box to maintain a safe work environment. The sandbag cofferdam and erosion control will then be removed and the flow of water restored.

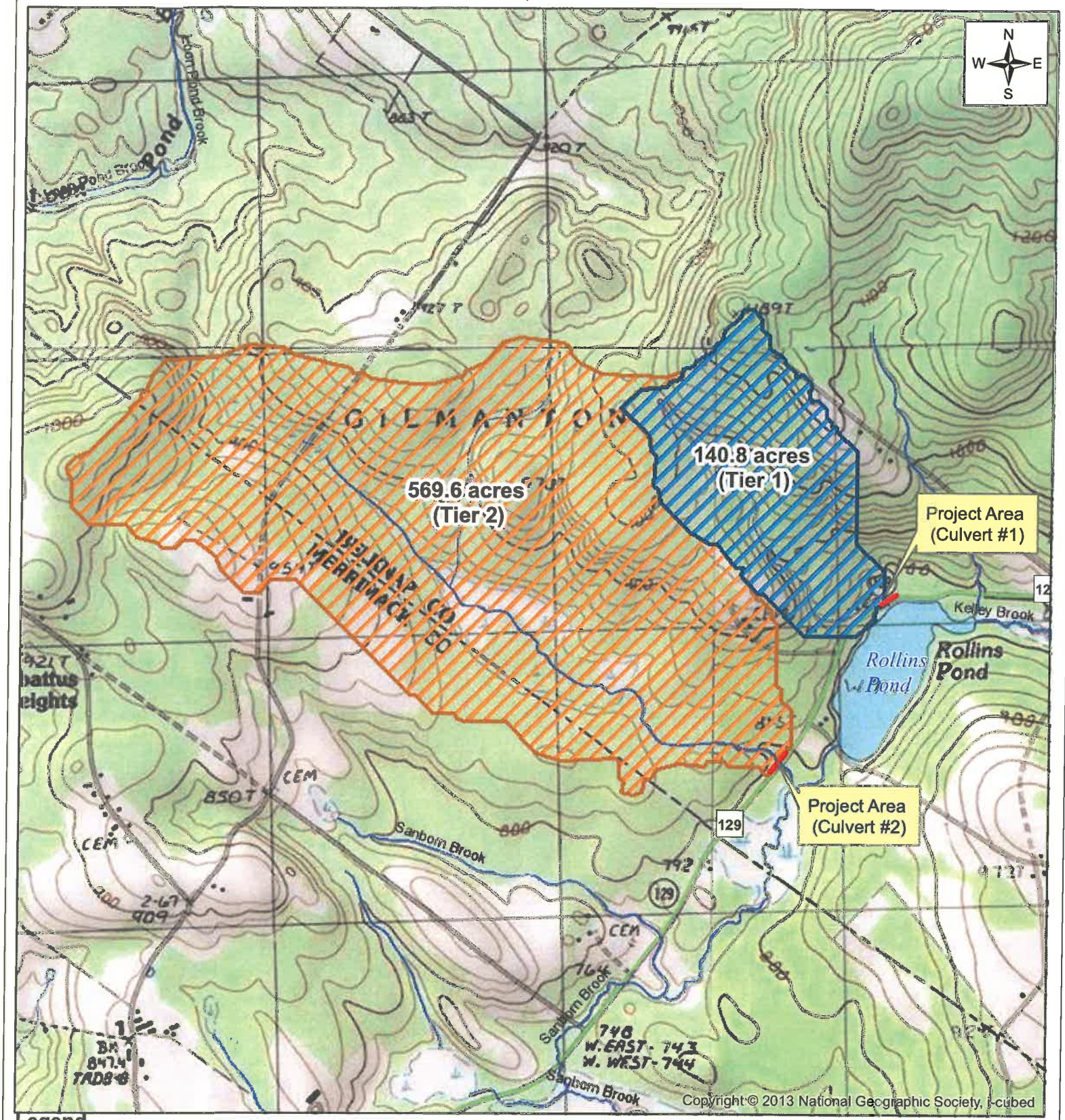
Arin provided a summary of resources identified: No impacts to state listed species based on NHB review, Northern long-eared bat 4(d) consistency letter obtained, no FEMA floodplains adjacent to work, project qualifies for AoT Permit by Rule, meets Shoreland maintenance exemption with BMP's during construction, and 'No Potential to Cause Effect' cultural review determination.

Lorie Summers asked about any thoughts on the use of beaver deceivers to address the apparent beaver issue in the area? This method David said that had not been investigated, they are currently maintaining the grate and cleaning the debris when necessary. Matt verified with Lorie that the Departments understanding is the recent changes to the law allow beaver control devices without permitting, and this could be investigated once the pipe is installed.

Arin described Culvert 2 is located in a rural/residential area and is a stone box culvert which carries an un-named stream under Route 129. The NWI map shows no associated wetland, and field data collected shows the actual alignment of the stream. The proposed work is to extend the existing stone box culvert by approx. 4' to match the existing adjacent shoulder and preserve the roadway from additional deterioration. Stones from a similar and local culvert will be used to construct the extension. David explained the basic work plan of installation of a cofferdam at the inlet to stop the flow of water and dewatering will take place. Traffic will be maintained as alternating one-way. Stones will be placed for the extension, fabric will be placed over the stones and the shoulder will be restored. Erosion control and cofferdam will be removed.

Kristen commented that it appears the stream takes a sharp bend at the outlet, and David said this work is ahead of the bend. Arin commented that the course of the stream is likely influenced by the adjacent stone wall, but this project will not alter the stone wall. David said the approximate impact to streambed is 16 s.f. David Hicks commented that this project would likely qualify for "self-verification" from the ACOE which would require no reporting (<3,000 s.f.) Lorie verified mitigation would not be required for this project. Kristen verified all work would be done in the ROW and David verified.

Gilmanton, 2019-M315-1



Legend

- Project Boundary

Stream Centerlines

- Perennial Stream
- Intermittent Stream
- Watershed Culvert #1
- Watershed Culvert #2
- State Routes

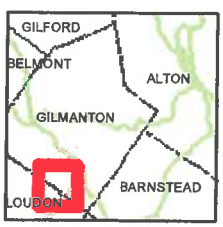
0 0.25 0.5 1 Miles

1:18,000

Map depicting Gilmanton 2 culvert replecement projects along Route 129.

Source: S:\Environment\PROJECTS\GILMANTON\2019-M315-1

New Hampshire DOT Department of Transportation



StreamStats Report- Culvert #1

Region ID:	NH
Workspace ID:	NH20190311141641201000
Clicked Point (Latitude, Longitude):	43.36704, -71.36706
Time:	2019-03-11 10:16:54 -0400

District 3 culvert replacement under NH 129 for un-named tributary to Rollins Pond.

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.22	square miles
CONIF	Percentage of land surface covered by coniferous forest	6.9799	percent
PREBC0103	Mean annual precipitation of basin centroid for January 1 to March 15 winter period	7.05	inches
BSLDEM30M	Mean basin slope computed from 30 m DEM	11.889	percent
MIXFOR	Percentage of land area covered by mixed deciduous and coniferous forest	35.1529	percent
PREG_03_05	Mean precipitation at gaging station location for March 16 to May 31 spring period	8.6	inches
TEMP	Mean Annual Temperature	44.297	degrees F
TEMP_06_10	Basinwide average temperature for June to October summer period	60.626	degrees F
PREG_06_10	Mean precipitation at gaging station location for June to October summer period	17.6	inches
ELEVMAX	Maximum basin elevation	1166.992	feet

Seasonal Flow Statistics Parameters [Low Flow Statewide]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.22	square miles	3.26	689
CONIF	Percent Coniferous Forest	6.9799	percent	3.07	56.2
PREBC0103	Jan to Mar Basin Centroid Precip	7.05	inches	5.79	15.1
BSLDEM30M	Mean Basin Slope from 30m DEM	11.889	percent	3.19	38.1
MIXFOR	Percent Mixed Forest	35.1529	percent	6.21	46.1
PREG_03_05	Mar to May Gage Precipitation	8.6	inches	6.83	11.5
TEMP	Mean Annual Temperature	44.297	degrees F	36	48.7
TEMP_06_10	Jun to Oct Mean Basinwide Temp	60.626	degrees F	52.9	64.4
PREG_06_10	Jun to Oct Gage Precipitation	17.6	inches	16.5	23.1
ELEVMAX	Maximum Basin Elevation	1166.992	feet	260	6290

Seasonal Flow Statistics Disclaimers [Low Flow Statewide]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Seasonal Flow Statistics Flow Report [Low Flow Statewide]

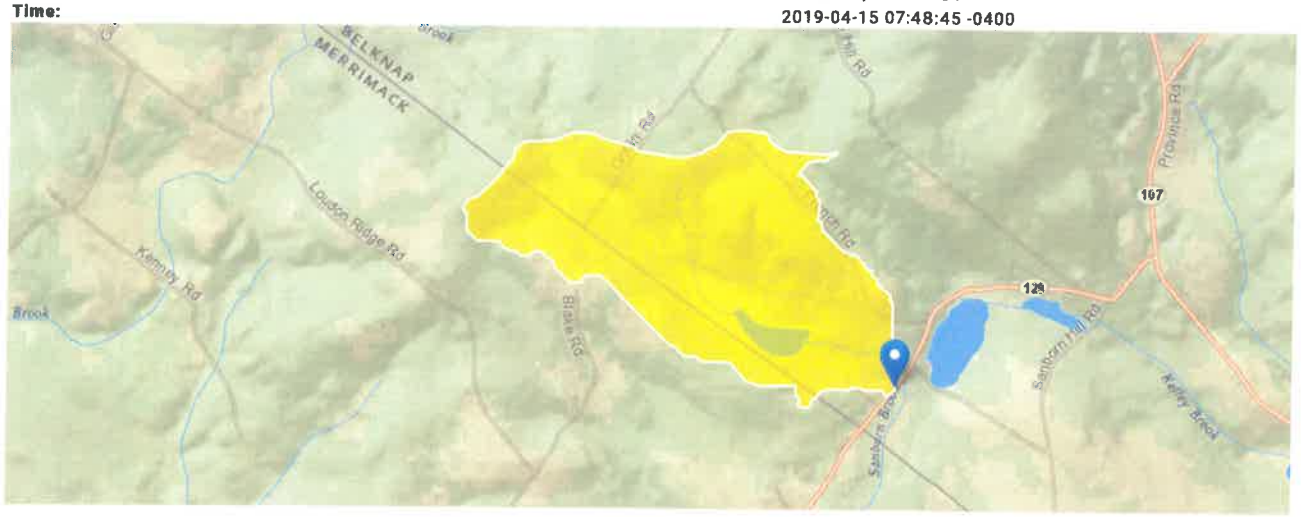
Statistic	Value	Unit
Jan to Mar15 60 Percent Flow	0.154	ft^3/s
Jan to Mar15 70 Percent Flow	0.127	ft^3/s
Jan to Mar15 80 Percent Flow	0.109	ft^3/s
Jan to Mar15 90 Percent Flow	0.0754	ft^3/s
Jan to Mar15 95 Percent Flow	0.0581	ft^3/s
Jan to Mar15 98 Percent Flow	0.0466	ft^3/s
Jan to Mar15 7 Day 2 Year Low Flow	0.102	ft^3/s
Jan to Mar15 7 Day 10 Year Low Flow	0.0505	ft^3/s
Mar16 to May 60 Percent Flow	0.47	ft^3/s
Mar16 to May 70 Percent Flow	0.365	ft^3/s
Mar16 to May 80 Percent Flow	0.27	ft^3/s
Mar16 to May 90 Percent Flow	0.189	ft^3/s
Mar16 to May 95 Percent Flow	0.138	ft^3/s
Mar16 to May 98 Percent Flow	0.0956	ft^3/s
Mar16 to May 7 Day 2 Year Low Flow	0.141	ft^3/s
Mar16 to May 7 Day 10 Year Low Flow	0.0726	ft^3/s
Jun to Oct 60 Percent Flow	0.0214	ft^3/s
Jun to Oct 70 Percent Flow	0.0149	ft^3/s
Jun to Oct 80 Percent Flow	0.00867	ft^3/s
Jun to Oct 90 Percent Flow	0.00495	ft^3/s
Jun to Oct 95 Percent Flow	0.00295	ft^3/s
Jun to Oct 98 Percent Flow	0.00266	ft^3/s
Jun to Oct 7 Day 2 Year Low Flow	0.00584	ft^3/s
Jun to Oct 7 Day 10 Year Low Flow	0.00132	ft^3/s
Nov to Dec 60 Percent Flow	0.241	ft^3/s
Nov to Dec 70 Percent Flow	0.186	ft^3/s
Nov to Dec 80 Percent Flow	0.145	ft^3/s
Nov to Dec 90 Percent Flow	0.0944	ft^3/s
Nov to Dec 95 Percent Flow	0.0585	ft^3/s
Nov to Dec 98 Percent Flow	0.0333	ft^3/s
Oct to Nov 7 Day 2 Year Low Flow	0.131	ft^3/s
Oct to Nov 7 Day 10 Year Low Flow	0.0539	ft^3/s

Seasonal Flow Statistics Citations

Flynn, R.H. and Tasker, G.D.,2002, Development of Regression Equations to Estimate Flow Durations and Low-Flow-Frequency Statistics in New Hampshire Streams: U.S.Geological Survey Scientific Investigations Report 02-4298, 66 p. (http://pubs.water.usgs.gov/wrir02-4298)

StreamStats Report- Culvert#2

Region ID: NH
Workspace ID: NH20190415114830137000
Clicked Point (Latitude, Longitude): 43.36196, -71.37164
Time: 2019-04-15 07:48:45 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.89	square miles
APRAVPRE	Mean April Precipitation	4.022	inches
WETLAND	Percentage of Wetlands	6.8174	percent
CSL10_85	Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known	68.5	feet per mi
CONIF	Percentage of land surface covered by coniferous forest	33.2896	percent
PREBC0103	Mean annual precipitation of basin centroid for January 1 to March 15 winter period	7.01	inches
BSLDEM30M	Mean basin slope computed from 30 m DEM	7.269	percent
MIXFOR	Percentage of land area covered by mixed deciduous and coniferous forest	34.2583	percent
PREG_03_05	Mean precipitation at gaging station location for March 16 to May 31 spring period	8.5	inches
TEMP	Mean Annual Temperature	44.163	degrees F
TEMP_06_10	Basinwide average temperature for June to October summer period	60.519	degrees F
PREG_06_10	Mean precipitation at gaging station location for June to October summer period	17.5	inches
ELEVMAX	Maximum basin elevation	1056.757	feet

Peak-Flow Statistics Parameters [Peak Flow Statewide SIR2008 5206]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.89	square miles	0.7	1290
APRAVPRE	Mean April Precipitation	4.022	inches	2.79	6.23
WETLAND	Percent Wetlands	6.8174	percent	0	21.8
CSL10_85	Stream Slope 10 and 85 Method	68.5	feet per mi	5.43	543

Peak-Flow Statistics Flow Report [Peak Flow Statewide SIR2008 5206]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	Pll	Plu	SEp	Equiv. Yrs.
2 Year Peak Flood	30.4	ft^3/s	18.5	49.8	30.1	3.2
5 Year Peak Flood	53.5	ft^3/s	32.1	89.1	31.1	4.7
10 Year Peak Flood	73.7	ft^3/s	43.4	125	32.3	6.2
25 Year Peak Flood	103	ft^3/s	58.2	181	34.3	8
50 Year Peak Flood	127	ft^3/s	69.9	231	36.4	9
100 Year Peak Flood	157	ft^3/s	83.5	296	38.6	9.8
500 Year Peak Flood	234	ft^3/s	114	479	44.1	11

Peak-Flow Statistics Citations

Olson, S.A.,2009, Estimation of flood discharges at selected recurrence intervals for streams in New Hampshire: U.S.Geological Survey Scientific Investigations Report 2008-5206, 57 p. (http://pubs.usgs.gov/sir/2008/5206/)

Seasonal Flow Statistics Parameters [Low Flow Statewide]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.89	square miles	3.26	689
CONIF	Percent Coniferous Forest	33.2896	percent	3.07	56.2
PREBC0103	Jan to Mar Basin Centroid Precip	7.01	inches	5.79	15.1
BSLDEM30M	Mean Basin Slope from 30m DEM	7.269	percent	3.19	38.1
MIXFOR	Percent Mixed Forest	34.2583	percent	6.21	46.1
PREG_03_05	Mar to May Gage Precipitation	8.5	inches	6.83	11.5
TEMP	Mean Annual Temperature	44.163	degrees F	36	48.7
TEMP_06_10	Jun to Oct Mean Basinwide Temp	60.519	degrees F	52.9	64.4
PREG_06_10	Jun to Oct Gage Precipitation	17.5	inches	16.5	23.1
ELEVMAX	Maximum Basin Elevation	1056.757	feet	260	6290

Seasonal Flow Statistics Disclaimers [Low Flow Statewide]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Seasonal Flow Statistics Flow Report [Low Flow Statewide]

Statistic	Value	Unit
Jan to Mar15 60 Percent Flow	0.409	ft^3/s
Jan to Mar15 70 Percent Flow	0.338	ft^3/s
Jan to Mar15 80 Percent Flow	0.301	ft^3/s
Jan to Mar15 90 Percent Flow	0.229	ft^3/s
Jan to Mar15 95 Percent Flow	0.184	ft^3/s
Jan to Mar15 98 Percent Flow	0.159	ft^3/s
Jan to Mar15 7 Day 2 Year Low Flow	0.313	ft^3/s
Jan to Mar15 7 Day 10 Year Low Flow	0.165	ft^3/s
Mar16 to May 60 Percent Flow	1.66	ft^3/s
Mar16 to May 70 Percent Flow	1.32	ft^3/s
Mar16 to May 80 Percent Flow	1	ft^3/s
Mar16 to May 90 Percent Flow	0.729	ft^3/s
Mar16 to May 95 Percent Flow	0.546	ft^3/s
Mar16 to May 98 Percent Flow	0.378	ft^3/s
Mar16 to May 7 Day 2 Year Low Flow	0.495	ft^3/s
Mar16 to May 7 Day 10 Year Low Flow	0.26	ft^3/s
Jun to Oct 60 Percent Flow	0.0827	ft^3/s
Jun to Oct 70 Percent Flow	0.0581	ft^3/s

Statistic	Value	Unit
Jun to Oct 80 Percent Flow	0.0473	ft^3/s
Jun to Oct 90 Percent Flow	0.0282	ft^3/s
Jun to Oct 95 Percent Flow	0.0179	ft^3/s
Jun to Oct 98 Percent Flow	0.0156	ft^3/s
Jun to Oct 7 Day 2 Year Low Flow	0.0325	ft^3/s
Jun to Oct 7 Day 10 Year Low Flow	0.009	ft^3/s
Nov to Dec 60 Percent Flow	0.78	ft^3/s
Nov to Dec 70 Percent Flow	0.564	ft^3/s
Nov to Dec 80 Percent Flow	0.403	ft^3/s
Nov to Dec 90 Percent Flow	0.241	ft^3/s
Nov to Dec 95 Percent Flow	0.143	ft^3/s
Nov to Dec 98 Percent Flow	0.0806	ft^3/s
Oct to Nov 7 Day 2 Year Low Flow	0.401	ft^3/s
Oct to Nov 7 Day 10 Year Low Flow	0.139	ft^3/s

Seasonal Flow Statistics Citations

Flynn, R.H. and Tasker, G.D.,2002, Development of Regression Equations to Estimate Flow Durations and Low-Flow-Frequency Statistics in New Hampshire Streams: U.S.Geological Survey Scientific Investigations Report 02-4298, 66 p. (http://pubs.water.usgs.gov/wrir02-4298)

Application Version: 4.3.0

NH Department of Transportation
Bureau of Environment
Project, #2019-M316-1, Culvert 1

Env-Wt 904.02 Tier 1 Stream Crossings
New Tier 1 Crossings;
Replacement Tier 1 Crossings that have a history of flooding

(1) The crossing shall meet the general design considerations specified in Env-Wt 904.01, as follows:

Env-Wt 904.01
Not be a barrier to sediment transport;

Proposed project will not diminish sediment transport and will continue to transport sediment as is does today.

Prevent the restriction of high flows and maintain existing low flows;

Proposed project will not restrict high flows and will maintain low flows. Flows will be maintained as it does today.

Not obstruct or otherwise substantially disrupt the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction;

Aquatic life will continue to move through the area as it does today with the proposed in-kind replacement. No changes are proposed that will disrupt movement of aquatic life. The crossing is currently connected and has sediment through the structure and acts as an equalizer pipe. The crossing currently has water flow year-round.

Not cause an increase in the frequency of flooding or overtopping of banks;

The proposed in-kind replacement will not cause an increase in flooding frequency, and will be maintained as it currently flows today. There is no history of flooding over the roadway at this crossing, and the proposed in-kind replacement will maintain the flood capacity.

Preserve watercourse connectivity where it currently exists;

The proposed in-kind replacement will maintain watercourse connectivity between the emergent marsh and Rollins Pond as it does today.

Restore watercourse connectivity where: (1) Connectivity previously was disrupted as a result of human activity(ies); and (2) Restoration of connectivity will benefit aquatic life upstream or downstream of the crossing, or both;

Watercourse connectivity is not currently disrupted, and it will not become disrupted with the proposed replacement. The replacement pipe will be placed at the same elevation as it is today to continue the crossing connectivity.

Not cause erosion, aggradation, or scouring upstream or downstream of the crossing; and

No erosion, aggradation, or scouring will result from the proposed work. BMP's for erosion control will be maintained throughout the project to protect the surrounding surface waters.

Not cause water quality degradation.

The proposed in-kind replacement will not cause water quality degradation. BMP's for erosion control will be maintained throughout the project to protect the surrounding surface waters.

(2) The crossing shall be designed to accommodate the greater of the 50-year frequency flood or applicable federal, state, or local requirements.

Yes, the crossing will accommodate the 50-year frequency flood event based on evaluation of the culvert capacity analysis. The culvert does not have a history of flooding and the upstream wetland will provide flood storage capability during this event.

(3) A Tier 1 stream crossing shall be a span structure, pipe arch, open-bottom culvert, or closed-bottom culvert, with or without being embedded with stream simulation.

The proposed replacement will be in-kind and no change to the existing structure, and the proposed pipe will not be embedded or have stream simulation.

If any of the above criteria cannot be met, approval for an alternative design must be requested and a technical report (Env-Wt 904.09) must be included with the application package.

NH Department of Transportation
Bureau of Environment
Project, #2019-M315-1, Culvert #2
Env-Wt 904.09 Alternative Design
TECHNICAL REPORT

Env-Wt 904.09(a) - If the applicant believes that installing the structure specified in the applicable rule is not practicable, the applicant may propose an alternative design in accordance with this section.

Please explain why the structure specified in the applicable rule is not practicable (Env-Wt 101.69 defines practicable as *available and capable of being done after taking into consideration costs, existing technology, and logistics in light of overall project purposes.)*

Based on drainage area the crossing is classified as a Tier 2 crossing. NHDOT is proposing an alternative design because District personnel have determined the existing stone box culvert is in good condition and does not need to be replaced; however there are concerns for shoulder width and sedimentation on the outlet side of the roadway. The structure will continue to transport water while allowing for safe travel of the motoring public once repaired. It is cost effective to repair the existing structure, while also providing minimized impacts to the surrounding wetland resources. The box culvert has also been determined to be a historic/culturally sensitive structure and replacement would require mitigation. It was determined the best alternative was to repair, and not replace, the existing structure.

The proposed alternative meets the specific design criteria for Tier 2 and Tier 3 crossings to the *maximum extent practicable*, as specified below.

Env-Wt 904.05 Design Criteria for Tier 2 and Tier 3 Stream Crossings – New Tier 2 stream crossings, replacement Tier 2 crossings that do not meet the requirements of Env-Wt 904.07, and new and replacement Tier 3 crossings shall be designed and constructed:

(a) In accordance with the NH Stream Crossing Guidelines.
The proposed improvements have been developed in accordance with the NH Stream Crossing Guidelines. The Department has considered design alternatives based on the general considerations that take the geomorphic conditions of the stream into account as it relates to the structure. The Department has collected data from the field and in the office to aid in the design of the proposed crossing. Using information that was available, the Department has determined that a full bridge replacement would not be practical. As such, the Department has proposed and alternate design that meets the intent of the stream crossing guidelines to the extent possible.

The proposed project will maintain the existing structure in place, while extending by 4' at the outlet. All work will use BMP's for Erosion and Sediment control.

(b) With bed forms and streambed characteristics necessary to cause water depths and velocities within the crossing structure at a variety of flows to be comparable to those found in the natural channel upstream and downstream of the stream crossing.

The proposed project will not alter the existing streambed material, and the existing material will be maintained. Flows through the crossing will not be altered from existing conditions.

(c) To provide a vegetated bank on both sides of the watercourse to allow for wildlife passage.

Banks do not currently exists and will not be added through the crossing as the crossing is not being replaced. The proposed project will reduce the vegetated bank by up to 4' at the outlet of the structure, consistent with the existing structure. This work will minimally alter stream crossing with negligible impacts to wildlife passage, while restoring the roadway shoulder and reducing sedimentation.

(d) To preserve the natural alignment and gradient of the stream channel, so as to accommodate natural flow regimes and the functioning of the natural floodplain.

The proposed project will not alter the alignment or gradient of the stream channel and flow regimes will remain unchanged.

(e) To accommodate the 100-year frequency flood, to ensure that (1) there is no increase in flood stages on abutting properties; and (2) flow and sediment transport characteristics will not be affected in a manner which could adversely affect channel stability.

The crossing does not have a history of flooding and no change to flood storage capabilities are anticipated from the proposed project. The project does not anticipate increase to flood stages on abutting properties, and they will remain unaltered. The flow and sediment transport characteristics will not be affected. The cross sectional area will remain the same since the plan is to keep the existing crossing in place and only modify the outlet. The extension will improve the safety of the roadway and stormwater pollutant concerns.

(f) To simulate a natural stream channel.

No changes to the existing stream channel. The existing channel through the crossing is a mixture of sand, gravel and cobble.

(g) So as not to alter sediment transport competence.

The proposed project will not alter sediment transport from the proposed extension.

Env-Wt 904.09(c)(3) – The alternative design must meet the general design criteria specified in Env-Wt 904.01:

Env-Wt 904.01
(a) Not be a barrier to sediment transport;

The proposed project will not create a barrier to sediment transport and sediment will continue to be transport as it does today.

(b) Prevent the restriction of high flows and maintain existing low flows;

The proposed project will not prevent the restriction of high flows and will maintain existing low flows. These will remain unchanged.

(c) Not obstruct or otherwise substantially disrupt the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction;

The proposed extension will not obstruct of disrupt the movement of aquatic life. The streambed material will be maintained as it does today, and the watercourse will flow in the same location as it does today.

(d) Not cause an increase in the frequency of flooding or overtopping of banks;

The proposed extension will not increase frequency of flooding or overtopping. There is no history of flooding over the roadway at this crossing, and the proposed extension will not alter this.

(e) Preserve watercourse connectivity where it currently exists;

The proposed extension will preserve watercourse connectivity as it currently exists. The stream will continue to flow in the same location as it does today.

(f) Restore watercourse connectivity where: (1) Connectivity previously was disrupted as a result of human activity(ies); and (2) Restoration of connectivity will benefit aquatic life upstream or downstream of the crossing, or both;

Watercourse connectivity is not currently disrupted, and it will not become disrupted with the proposed extension.

(g) Not cause erosion, aggradation, or scouring upstream or downstream of the crossing; and

No erosion, aggradation, or scouring upstream or downstream of the crossing will not result from the proposed work. BMP's for erosion control will be maintained throughout the project to protect the stream.

(h) Not cause water quality degradation.

The proposed extension will not cause water quality degradation. BMP's for erosion control will be maintained throughout the project to protect the stream.

*****Note: An alternative design for Tier 1 stream crossings must meet the general design criteria (Env-Wt 904.01) only to the *maximum extent practicable*.**

Culvert #1

NEW HAMPSHIRE NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

To: Arin Mills, NH Department of Transportation
John O. Morton Building
7 Hazen Drive
Concord, NH 03302-0483

From: NH Natural Heritage Bureau

Date: 3/12/2019 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau of request submitted 3/7/2019

NHB File ID: NHB19-0758 **Applicant:** Arin Mills

Location: Gilmanton
Culvert under NH 129 in an un-named tributary to Rollins Pond

Project Description: Replacement of a 24" culvert by District 2 for an un-named tributary to Rollins Pond under NH Route 129.

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

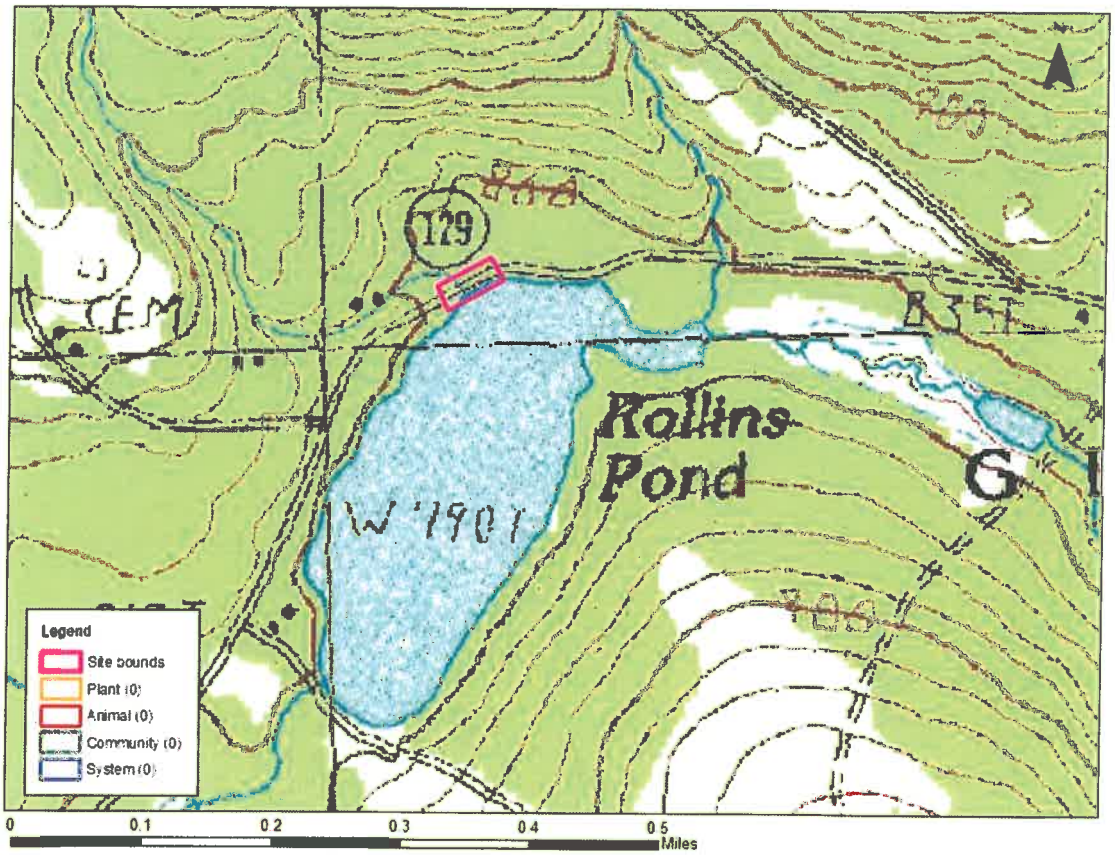
It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 3/7/2019, and cannot be used for any other project.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

MAP OF PROJECT BOUNDARIES FOR: **NHB19-0758**

NHB19-0758



Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

Culvert #2

NEW HAMPSHIRE NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

To: Arin Mills, NH Department of Transportation
John O. Morton Building
7 Hazen Drive
Concord, NH 03302-0483

From: NH Natural Heritage Bureau

Date: 4/17/2019 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau of request submitted 4/15/2019

NHB File ID: NHB19-1155 **Applicant:** Arin Mills

Location: Gilmanton
Tax Maps: Culvert under NH 129 in an un-named tributary to Sanborn Brook

Project Description: Extend culvert with stone by up to 4 feet on both inlet and outlet side. Work may also include straightening of channel after the culvert outlet.

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

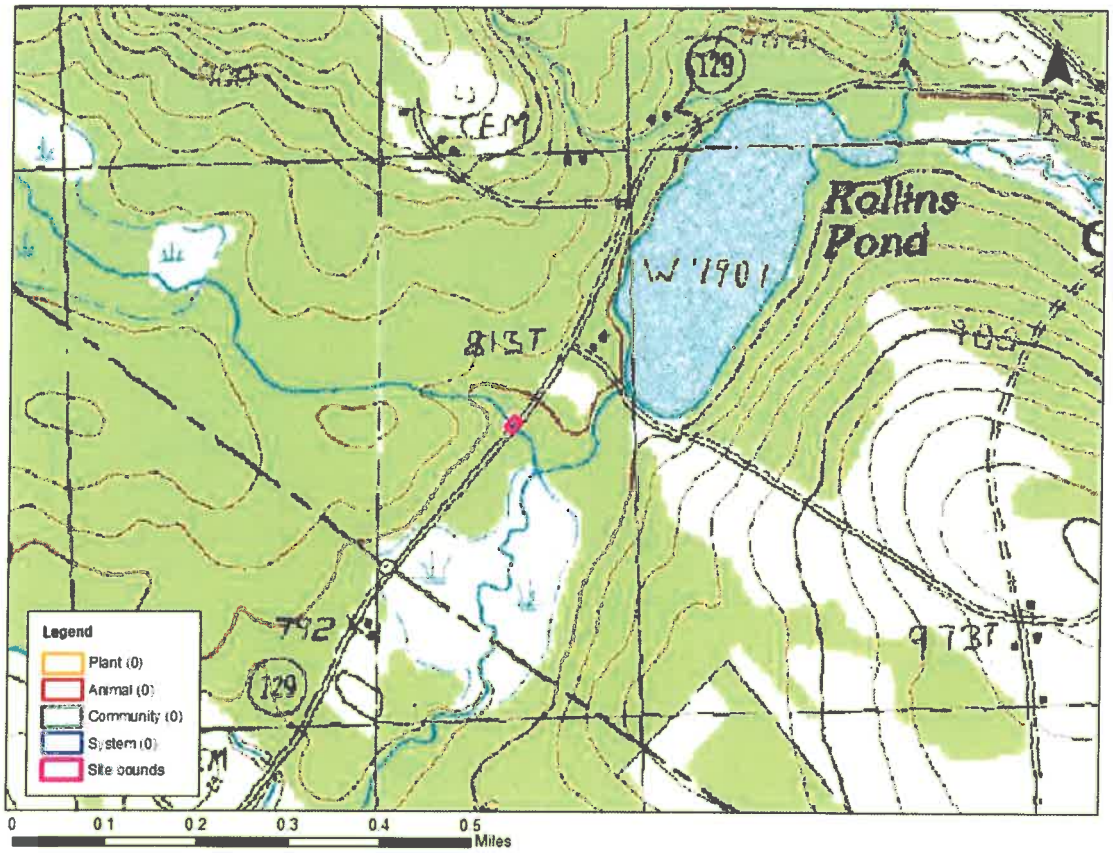
It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 4/15/2019, and cannot be used for any other project.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

MAP OF PROJECT BOUNDARIES FOR: **NHB19-1155**

NHB19-1155



Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To:
Consultation Code: 05E1NE00-2019-SLI-1845
Event Code: 05E1NE00-2019-E-04560
Project Name: Gilmanton Culvert #1, 2019-M315-1

May 31, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2019-SLI-1845

Event Code: 05E1NE00-2019-E-04560

Project Name: Gilmanton Culvert #1, 2019-M315-1

Project Type: TRANSPORTATION

Project Description: Replace a 24" X 45'10" cmp culvert in-kind which carries an un-named tributary to Rollins Pond.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.36707716419898N71.36690728984692W

Counties: Belknap, NH

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To:
Consultation Code: 05E1NE00-2019-SLI-1847
Event Code: 05E1NE00-2019-E-04564
Project Name: Gilmanton Culvert #2, 2019-M315-1

May 31, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2019-SLI-1847

Event Code: 05E1NE00-2019-E-04564

Project Name: Gilmanton Culvert #2, 2019-M315-1

Project Type: TRANSPORTATION

Project Description: Extend an existing stone box culvert approx. 4' and armor the stream bank at the outlet side which carries an un-named tributary to Sanborn Brook.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.36198052636267N71.37160159848905W

Counties: Belknap, NH

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

IPaC Record Locator: 600-16841924

May 31, 2019

Subject: Consistency letter for the 'Gilmanton Culvert #1, 2019-M315-1' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear Arin Mills:

The U.S. Fish and Wildlife Service (Service) received on May 31, 2019 your effects determination for the 'Gilmanton Culvert #1, 2019-M315-1' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause "take"[1] of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action's effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Gilmanton Culvert #1, 2019-M315-1

2. Description

The following description was provided for the project 'Gilmanton Culvert #1, 2019-M315-1':

> Replace a 24" X 45'10" cmp culvert in-kind which carries an un-named tributary to Rollins Pond.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.36707716419898N71.36690728984692W

Determination Key Result

This non-Federal Action may affect the northern long-eared bat; however, any take of this species that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o).

Determination Key Description: Northern Long-eared Bat 4(d) Rule
This key was last updated in IPaC on **May 15, 2017**. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for non-Federal actions is to assist determinations as to whether proposed actions are excepted from take prohibitions under the northern long-eared bat 4(d) rule.

If a non-Federal action may cause prohibited take of northern long-eared bats or other ESA-listed animal species, we recommend that you coordinate with the Service.

Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   No

2. Will your activity purposefully **Take** northern long-eared bats?

   No

3. Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered

   No

4. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

5. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

6. Will the action involve Tree Removal?

   No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

IPaC Record Locator: 142-16842221

May 31, 2019

Subject: Consistency letter for the 'Gilmanton Culvert #2, 2019-M315-1' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear Arin Mills:

The U.S. Fish and Wildlife Service (Service) received on May 31, 2019 your effects determination for the 'Gilmanton Culvert #2, 2019-M315-1' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause "take"[1] of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action's effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Gilmanton Culvert #2, 2019-M315-1

2. Description

The following description was provided for the project 'Gilmanton Culvert #2, 2019-M315-1':

> Extend an existing stone box culvert approx. 4' and armor the stream bank at the outlet side which carries an un-named tributary to Sanborn Brook.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.36198052636267N71.37160159848905W

Determination Key Result

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Determination Key Description: Northern Long-eared Bat 4(d) Rule
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Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   No

2. Will your activity purposefully **Take** northern long-eared bats?

   No

3. Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered

   No

4. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

5. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

6. Will the action involve Tree Removal?

   No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

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4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

Proposed District Projects – NHDOT Cultural Resources Review

For the purpose of compliance with regulations of the National Historic Preservation Act, the Advisory Council on Historic Preservation's *Procedures for the Protection of Historic Properties* (36 CFR 800), the US Army Corps of Engineers' *Appendix C*, and/or state regulation RSA 227-C:9, *Directive for Cooperation in the Protection of Historic Resources*, the NHDOT Cultural Resources Program has reviewed the proposed project for potential impacts to historic properties.

Proposed project:

The project includes work on two culverts in Gilmanton along Route 129 (District 3) which will require a wetland permit application, one permit for both culverts. This work is proposed to be completed by District in 2020, and it is proposed that the wetland permit application be submitted to DES in late July 2019.

Culvert #1 will be replacement of the concrete culvert 'in-kind', with a 24" rcp. This culvert replacement constituted the original project given to BOE back in February. The culvert along Route 129 carries an un-named tributary to Rollins Pond near the southern corner of Gilmanton. Although the exact age of the culvert is unknown, it is at least 20 years old (Email to Arin Mills from David Silvia, District 3 3/14/2019). Disturbance is anticipated to be a 5 ft wide trench (length size and material to be determined). All work will be done from the highway pavement so no additional disturbance is anticipated. The project lead said there will be no other work anticipated at this time. The photographs by Arin Mills on February 6, 2019 and on April 11, 2019 clearly depict the filled road prism with Rollins Pond at the culvert outlet on the west and the emergent marsh on the east.

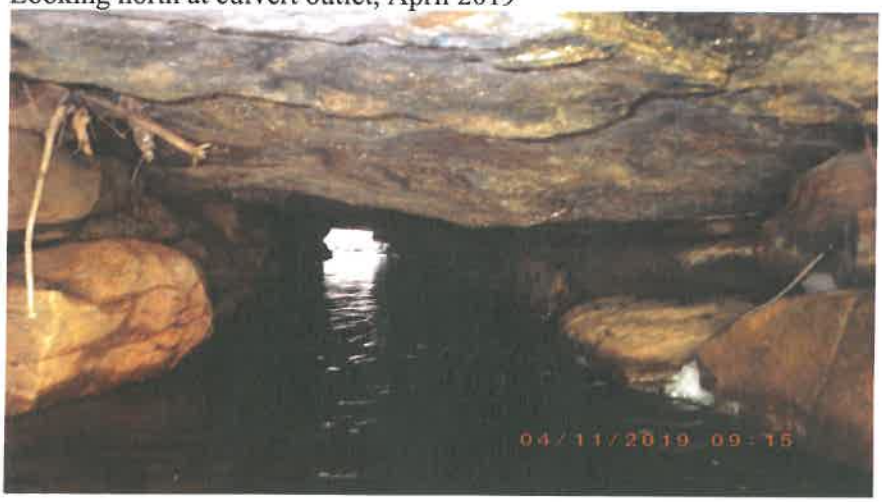
Photo 2: Looking east along Route 129 at culvert outlet into Rollins Pond

Culvert #2 is situated further south along Route 129 at the Kelley Meadow Brook crossing. It is a stone box culvert that has previously been repaired, approximately 30 years ago due to a center line sink hole in the road, The culvert section below is reinforced with a metal plate (Personal communication between David Silva and Patrol Foreman Joe Cotton in Mechanical Services who did the work). Currently, there are cracks in asphalt road indicative of below surface culvert deterioration and the culvert outlet road side is failing, cracking off, and falling into stream.

One alternative for improvement is to add a 4 foot extension to the culvert and armor the bank on the outlet side to prevent further erosion (Arin Mills emails of 4/15/2019 & 5/21/2019). The extension could be comprised of excess stones from another stone box culvert project, where the culvert was extended with a concrete pipe. This alternate culvert is located about a mile away in Loudon (non-wetland). The rocks recovered from this Loudon culvert appear to be about the same "vintage." Another alternative would be to replace the deteriorated stone box culvert with a concrete pipe culvert and straighten the channel at the outlet.

There are stone walls that extend on both sides of the ROW in the area of the project, however at this time it does not appear there will be any impacts to the nearby stone walls. In addition, there are disruptions and stone clustering in the adjacent project area, evidence of previous disturbance and impacts associated with former culvert construction and repair.

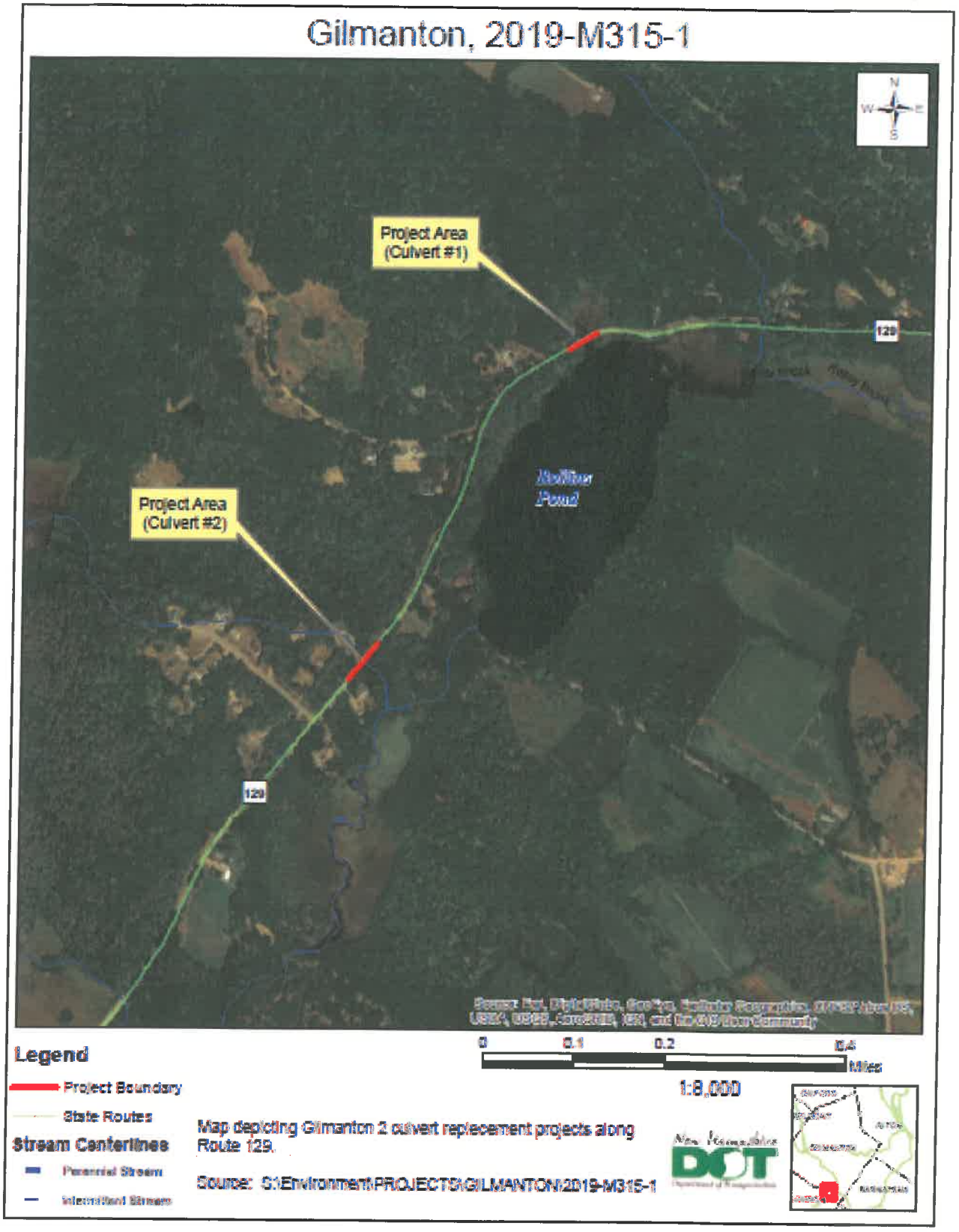
Looking north at culvert outlet, April 2019



Looking into stone box culvert, April 11, 2019

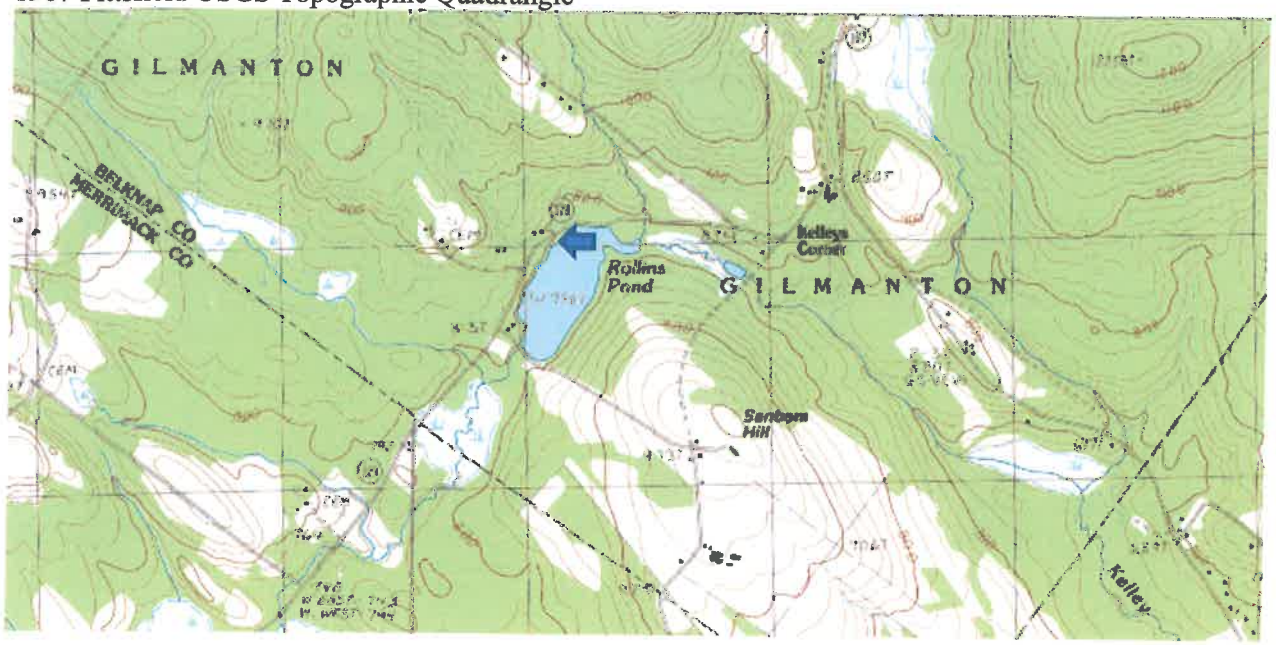
Looking north at the outlet

Looking towards stone wall, culvert outlet, and bend in channel


Gilmanton, 2019-M315-1
Project Area (Culvert #1)
Project Area (Culvert #2)
Roller Pond
129
129
N
W
E
S
Legend
Project Boundary
State Routes
Stream Centerlines
Perennial Stream
Intermittent Stream
0
0.1
0.2
0.4
Miles
1:8,000
Map depicting Gilmanton 2 culvert replacement projects along Route 129.
Source: S:\Environment\PROJECTS\GILMANTON\2019-M315-1

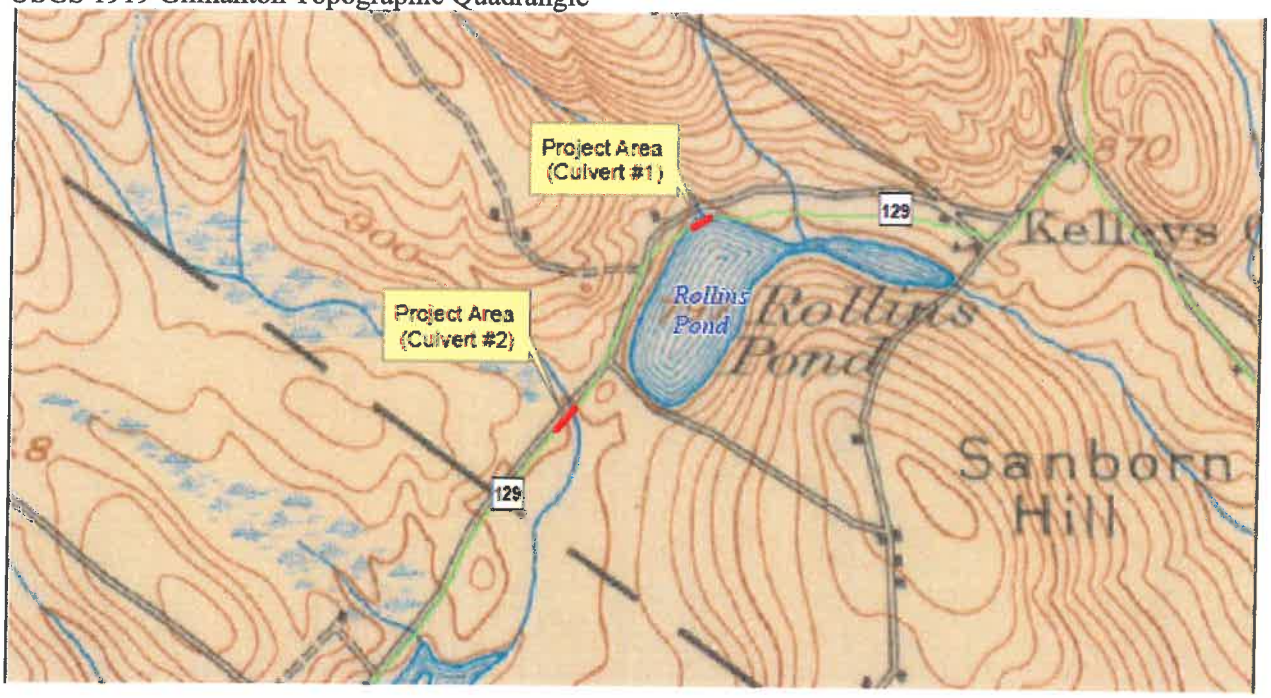
Culvert #1

1987 Pittsfield USGS Topographic Quadrangle

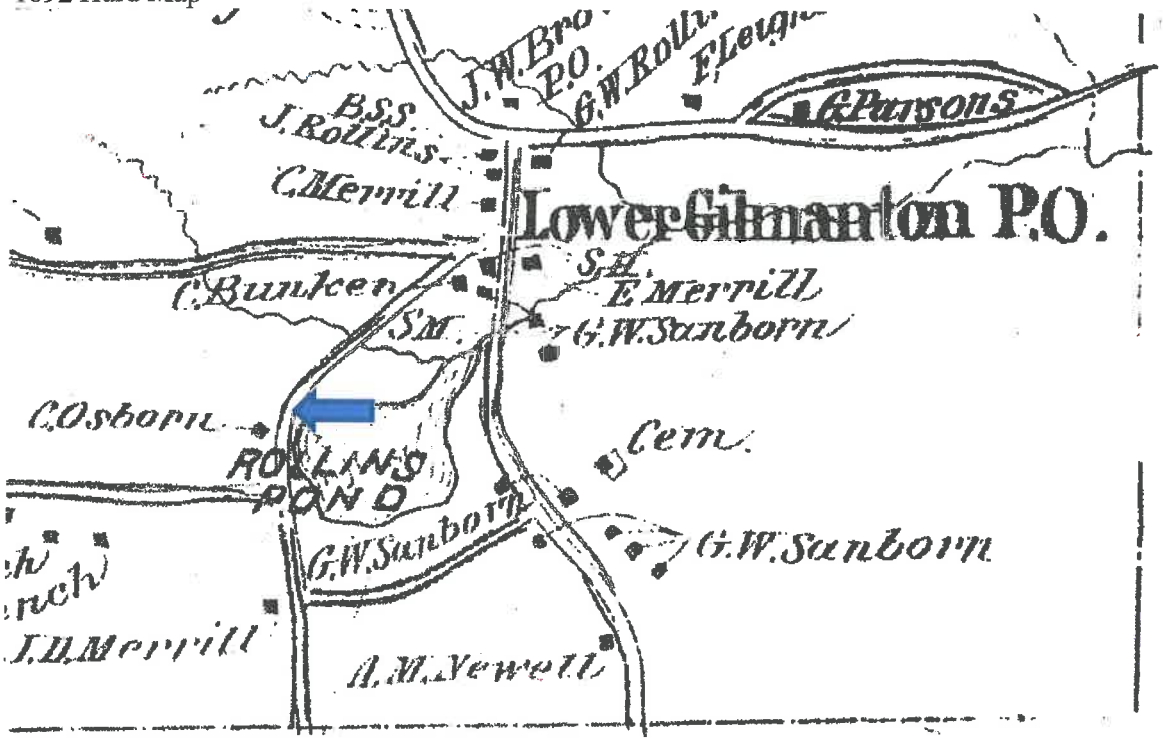


Historic cartographic review revealed that the 1919 USGS Gilmanton Topographic quadrangle, the 1892 Hurd map, and the 1860 Woodford map do not depict any residential or industrial structures in the project area. The nearest historic standing structure was situated outside of the project area to the south and west of NH129. In 1892, the historic structure was associated with C. Osborn, while in 1860 the existing historic structure was associated with S. Bunker, who is situated just north of a shoe shop (S.S.).

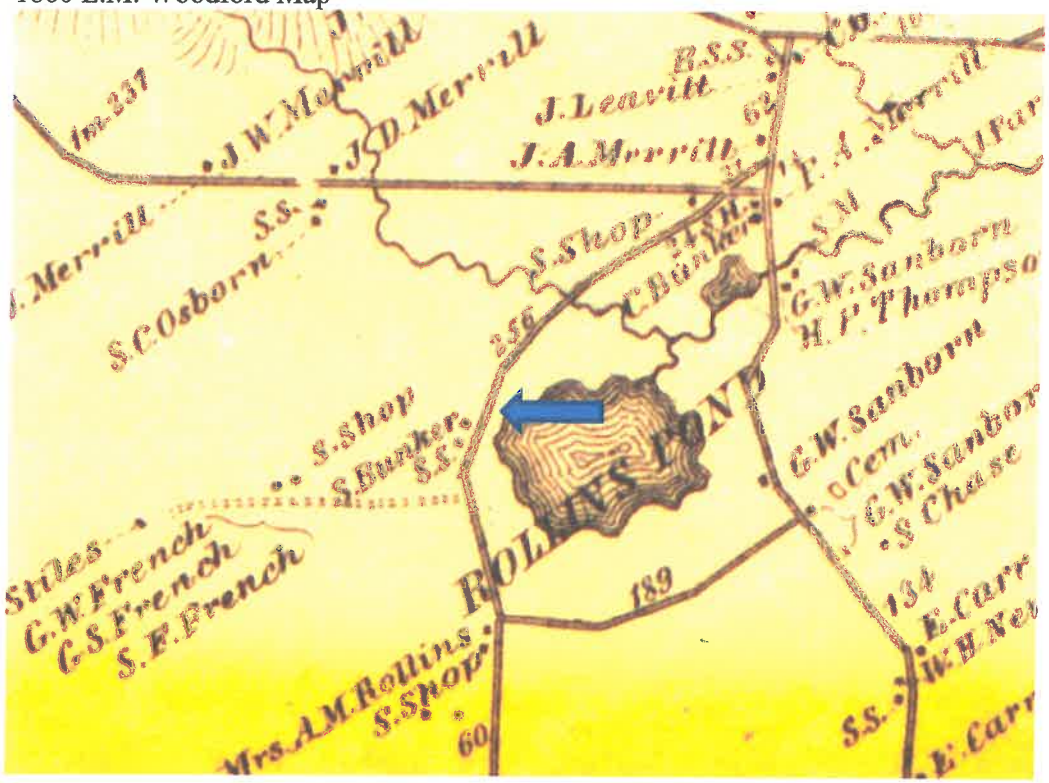
USGS 1919 Gilmanton Topographic Quadrangle



1892 Hurd Map



1860 E.M. Woodford Map



Above Ground Review

Known/approximate age of structure: **Culvert #1**
Concrete culvert pipe, at least 20 years old

☒ **No Potential to Cause Effect/No Concerns**

If this were a federal project, the activities would align with the Section 106 Programmatic Agreement Appendix B, activities with minimal potential to cause effects under:
7. Culvert replacement (excluding stone box culverts, when the culvert is less than 60" in diameter and excavation for replacement is limited to previously disturbed areas.
The culvert will be replaced in kind with a 24" reinforced concrete pipe.

☐ Concerns:

Below Ground Review

Recorded Archaeological site: ☒Yes ☒No

Nearest Recorded Archaeological Site Name & Number: 27-MR-0074 (no name) in Loudon
☒Pre-Contact ☐Post-Contact

Distance from Project Area:
2.065 miles 3.324 km) southwest of project area

☒ **No Potential to Cause Effect/No Concerns**

Arin Mills noted, "In my review there are no stonewalls that will be impacted as part of this project. None were observed while at the site, nor do any show in Google Earth in the immediate vicinity of the project."

Due to the substantive wetland environment on both sides of the road, there is a low potential for encountering archaeological deposits in this location.

Furthermore, as the replacement of the 24" concrete pipe is anticipated to be limited to a 5 ft wide trench and all work to be done from the highway pavement with no additional disturbance projected, it is likely impacts will be primarily confined to already disturbed soils and the wetland environment.

If the scope of work changes or work is proposed in previously undisturbed areas, the Bureau of Environment will review the changes prior to construction.

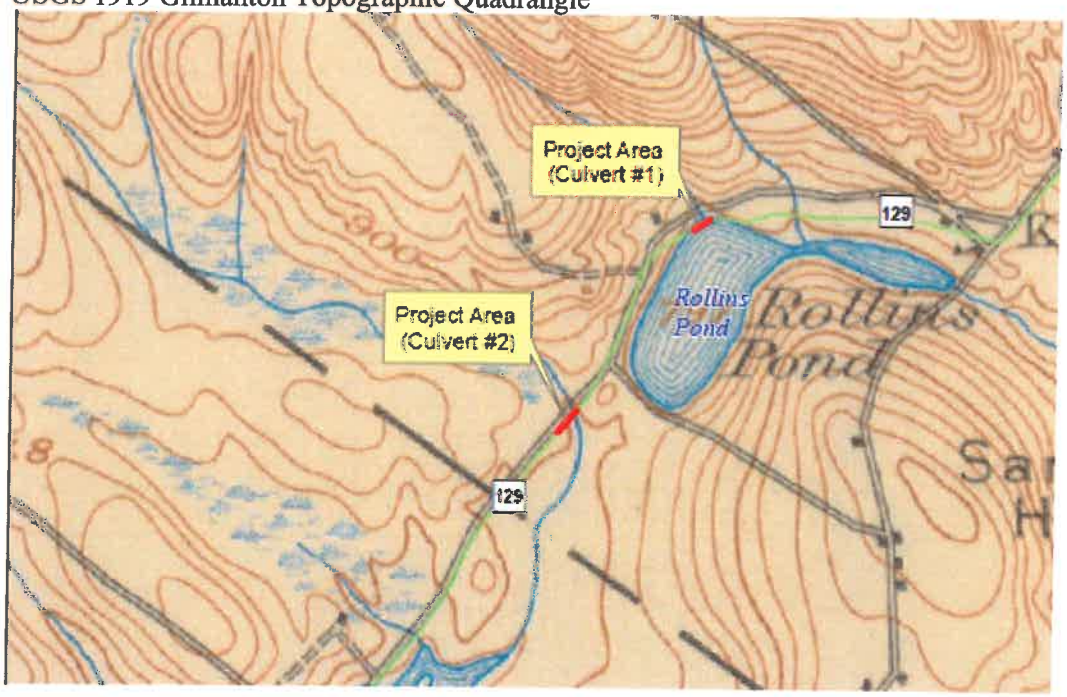
☐ Concerns:

Culvert #2 (Gilmanton Stone Box)

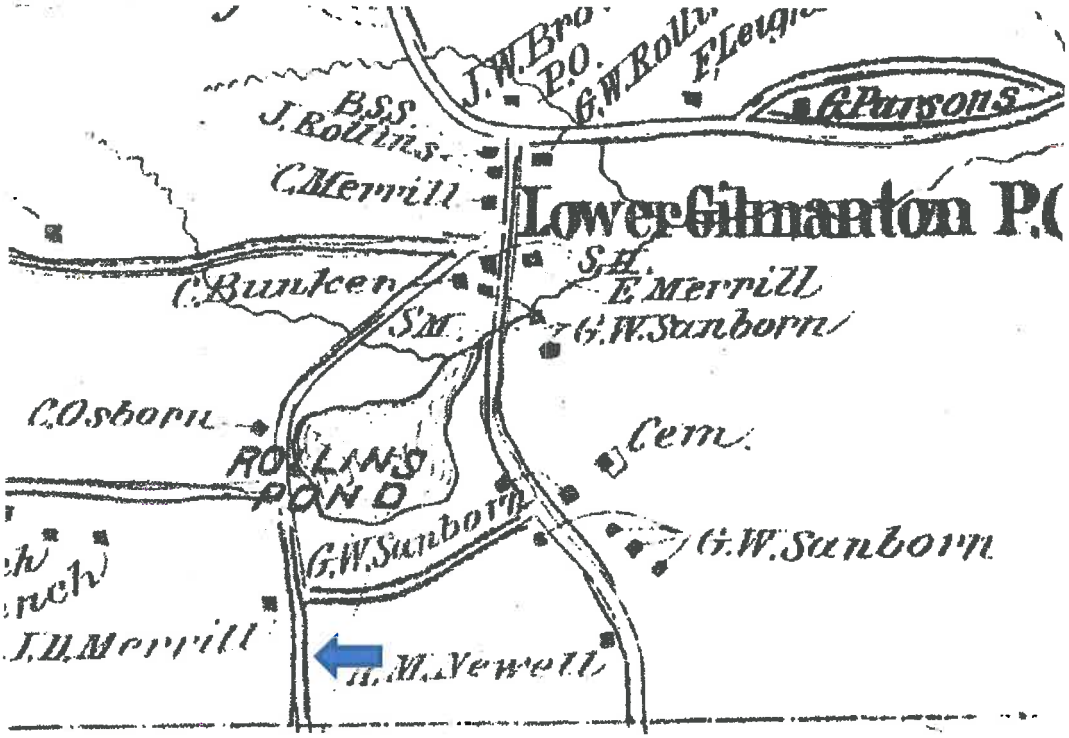
1987 Pittsfield USGS Topographic Quadrangle

Historic cartographic review revealed that the 1919 USGS Gilmanton Topographic quadrangle, the 1892 Hurd map, and the 1860 Woodford map do not depict any residential or industrial structures in the project area.

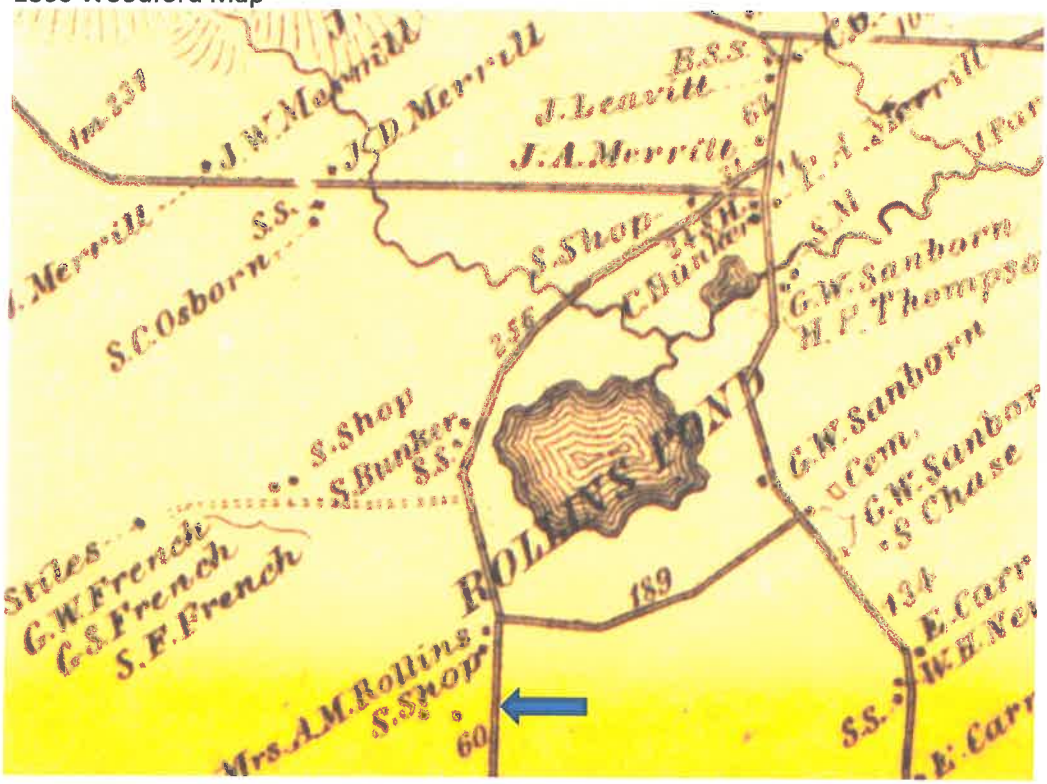
USGS 1919 Gilmanton Topographic Quadrangle



1892 Hurd



1860 Woodford Map



Above Ground Review

Known/approximate age of structure: **Culvert #2**
Stone box culvert, repaired approximately 30 years ago when metal plate installed under road centerline in culvert

☐ No Potential to Cause Effect/No Concerns

☒ **Concerns:**

If the culvert is repaired and extended then there are no cultural concerns and the project can proceed with in-house review only. The proposed extension is approximately 4' and can be either reused stone or concrete, as the extension serves as a minimization effort to the impact on the potential historic resource.

If the proposed action is replacement, then an RPR needs to be completed and coordination occur with NHDHR.

Below Ground Review

Recorded Archaeological site: ☐Yes ☒No

Nearest Recorded Archaeological Site Name & Number: 27-MR-0074 (no name) in Loudon
☒Pre-Contact ☐Post-Contact

Distance from Project Area:
1.677 miles (2.699km) southwest of project area

☒ **No Potential to Cause Effect/No Concerns**

The stream channel and project area appears to have been impacted by road, culvert and channel armoring. It appears both of the proposed project alternatives will stay within the disturbed footprint of the road and channel.

If stonewalls are to be impacted, evaluation forms should be compiled to determine if the stonewalls meet realignment and reconstruction thresholds, although segments within the project area already appear to have been impacted resulting in some taller wall elements and/or stockpiling.

If the scope of work changes or work is proposed in previously undisturbed areas, the Bureau of Environment will review the changes prior to construction.

☐ Concerns:

NHDOT Cultural Resources Staff 6/26/2019

US Army Corps of Engineers
New England District

Appendix B

Regional General Permits (GPs)
Required Information and Corps Secondary Impacts Checklist

In order for the Corps of Engineers to properly evaluate your application, applicants must submit the following information along with the New Hampshire DES Wetlands Bureau application or permit notification forms. Some projects may require more information. For a more comprehensive checklist, go to www.nae.usace.army.mil/regulatory, "Forms/Publications" and then "Application and Plan Guideline Checklist." Check with the Corps at (978) 318-8832 for project-specific requirements. For your convenience, this Appendix B is also attached to the State of New Hampshire DES Wetlands Bureau application and Permit by Notification forms.

All Projects:

- Corps application form (ENG Form 4345) as appropriate.
- Photographs of wetland/waterway to be impacted.
- Purpose of the project.
- Legible, reproducible black and white (no color) plans no larger than 11"x17" with bar scale. Provide locus map and plan views of the entire property.
- Typical cross-section views of all wetland and waterway fill areas and wetland replication areas.
- In navigable waters, show mean low water (MLW) and mean high water (MHW) elevations. Show the high tide line (HTL) elevations when fill is involved. In other waters, show ordinary high water (OHW) elevation.
- On each plan, show the following for the project:
- Vertical datum and the NAVD 1988 equivalent with the vertical units as U.S. feet. Don't use local datum. In coastal waters this may be mean higher high water (MHHW), mean high water (MHW), mean low water (MLW), mean lower low water (MLLW) or other tidal datum with the vertical units as U.S. feet. MLLW and MHHW are preferred. Provide the correction factor detailing how the vertical datum (e.g., MLLW) was derived using the latest National Tidal Datum Epoch for that area, typically 1983-2001.
- Horizontal state plane coordinates in U.S. survey feet based on the Traverse Mercator Grid system for the State of New Hampshire (Zone 2800) NAD 83.
- Show project limits with existing and proposed conditions.
- Limits of any Federal Navigation Project in the vicinity of the project area and horizontal State Plane Coordinates in U.S. survey feet for the limits of the proposed work closest to the Federal Navigation Project;
- Volume, type, and source of fill material to be discharged into waters and wetlands, including the area(s) (in square feet or acres) of fill in wetlands, below the ordinary high water in inland waters and below the high tide line in coastal waters.
- Delineation of all waterways and wetlands on the project site,:
- Use Federal delineation methods and include Corps wetland delineation data sheets. See GC 2 and www.nero.noaa.gov/hcd for eelgrass survey guidance.
- GP 3, Moorings, contains eelgrass survey requirements for the placement of moorings.
- For activities involving discharges of dredged or fill material into waters of the U.S., include a statement describing how impacts to waters of the U.S. are to be avoided and minimized, and either a statement describing how impacts to waters of the U.S. are to be compensated for (or a conceptual or detailed mitigation plan) or a statement explaining why compensatory mitigation should not be required for the proposed impacts. Please contact the Corps for guidance.

US Army Corps of Engineers ®
New England District

New Hampshire General Permits (GPs)
Appendix B - Corps Secondary Impacts Checklist
(for inland wetland/waterway fill projects in New Hampshire)

1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to "work" include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See GC 5, regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*		X
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	X	
2.2 Are there proposed impacts to SAS, special wetlands. Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) DataCheck Tool for information about resources located on the property at https://www2.des.state.nh.us/nhb_datacheck/. The book Natural Community Systems of New Hampshire also contains specific information about the natural communities found in NH.		X
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	X	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		X
2.5 The overall project site is more than 40 acres?	X	
2.6 What is the area of the previously filled wetlands?		
2.7 What is the area of the proposed fill in wetlands?		
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?		
3. Wildlife	Yes	No
3.1 Has the NHB & USFWS determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require an NHB ID number & a USFWS IPAC determination.) NHB DataCheck Tool: https://www2.des.state.nh.us/nhb_datacheck/ USFWS IPAC website: https://ecos.fws.gov/ipac/location/index		X

3.2 Would work occur in any area identified as either "Highest Ranked Habitat in N.H." or "Highest Ranked Habitat in Ecological Region"? (These areas are colored magenta and green, respectively, on NH Fish and Game's map, "2010 Highest Ranked Wildlife Habitat by Ecological Condition.") Map information can be found at: • PDF: www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html.		X
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the GC 21?	X	
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?		X
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		N/A
5. Historic/Archaeological Resources		
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) with your DES file number shall be sent to the NH Division of Historical Resources as required on Page 11 GC 8(d) of the GP document**	X	

*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.
** If your project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law.

Site Visit Photos from April 30, 2019 Site Visit. Culvert #1.

Photo 1: Looking west along Route 129 at culvert outlet into Rollins Pond

Photo 2: Looking east along Route 129 at culvert outlet into Rollins Pond

Photo 3: Looking south at Rollins Pond from culvert outlet

Photo 4: Looking north into emergent marsh at culvert inlet

Site Visit Photos from April 30, 2019 Site Visit. Culvert #2.

Photo 1: Looking NE along Route 129 at crossing

Photo 2: Looking SW along Route 129 at crossing

Photo 3: Looking north at culvert outlet

Photo 4: Looking south at culvert inlet

Photo 5: Looking SE downstream of crossing

Photo 6: Looking north upstream of crossing

Photo 7: Looking NW approx. 300' upstream of crossing

Photo 8: Looking NW approx. 400' upstream of crossing

Standard Dredge and Fill
M316-26, Gilmanton
20 scale
8/13/19
By D. Silvia

Wetland Impact Summary

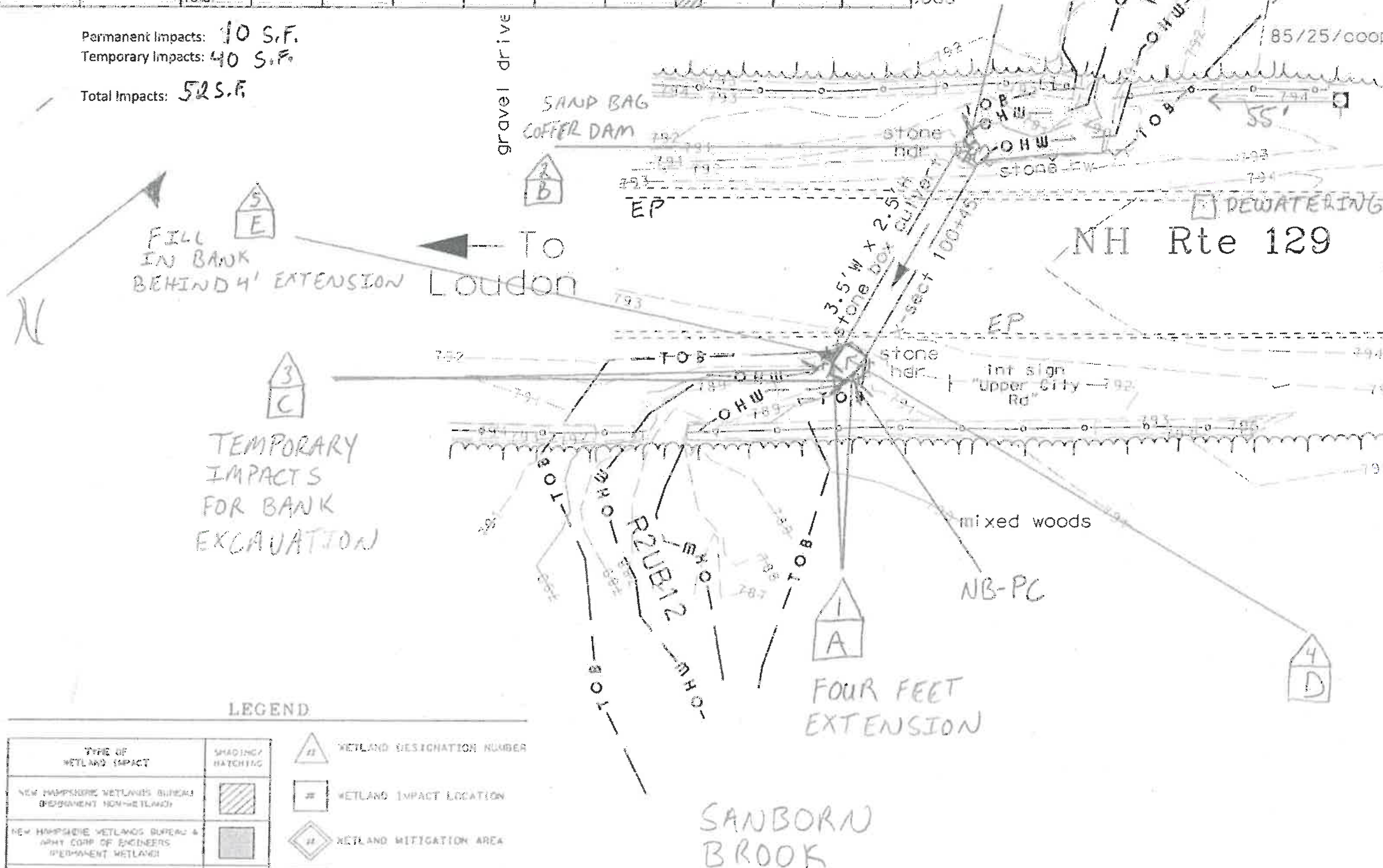
Wetland Number	Wetland Classification	Location	Area Impacts: Permanent N.H.W.B (Non-Wetland) SF	LF	Permanent N.H.W.B & A.C.O.E (Wetland) SF	LF	Temporary SF	LF	Linear Stream Impacts for Mitigation: Permanent Bank Left LF	Bank Right LF	Channel LF
1	BANK	A			20	10					
2	R2UB12	B					10	1			
3	BANK	C					30	10			
4	R2UB12	D			16	4					
5	BANK	E			16	4					
		Total									

Permanent Impacts: 10 S.F.
Temporary Impacts: 40 S.F.

Total Impacts: 52 S.F.

NOTE: COFFER DAM WILL STOP THE FLOW OF WATER THROUGH THE CULVERT

Work Description
Extending a stone box culvert by 4 feet. Work will consist of a sandbag coffer dam on the inlet end to stop flow. The outlet end bank will be excavated and header removed. The walls of the box will be extended with the same stone saved from a similar box culvert. Top stones will then be placed from the same stone also saved from a similar box culvert and header stones placed.



LEGEND

TYPE OF WETLAND IMPACT	SHADING/HATCHING
NEW HAMPSHIRE WETLANDS BUREAU (PERMANENT NON-WETLAND)	
NEW HAMPSHIRE WETLANDS BUREAU & ARMY CORP OF ENGINEERS (PERMANENT WETLAND)	
TEMPORARY IMPACTS	

- WETLAND DESIGNATION NUMBER
- WETLAND IMPACT LOCATION
- WETLAND MITIGATION AREA
- MITIGATION

EROSION CONTROL PLAN LEGEND

PC — PERIMETER CONTROL
SILT FENCE
EROSION CONTROL MIX BERM
EROSION CONTROL MIX SOX
TURBIDITY CURTAIN
SHEET PILE
COFFER DAM

NB/PC — NATURAL BUFFER/PERIMETER CONTROL
SILT FENCE
EROSION CONTROL MIX BERM
EROSION CONTROL MIX SOX
TURBIDITY CURTAIN
SHEET PILE
COFFER DAM

CP — CHANNEL PROTECTION
STONE CHECK DAMS
STRAW WATTLES
CHANNEL MATTING
CLASS D EROSION STONE
CLASS C STONE

CWB — CLEAN WATER BYPASS
PUMP THROUGH PIPE
DRAIN THROUGH PIPE OR CHANNEL

20 0 20 40
1" = 20'

UpperCityRdenv.dgn Default 7/25/2019 2:53:36 PM "N34SEL"

Standard Dredge and Fill
M316-26, Gilmanton
20 scale
8/13/19
By D. Silvia

LEGEND

TYPE OF WETLAND IMPACT	SHADING/ HATCHING
NEW HAMPSHIRE WETLANDS BUREAU (PERMANENT NON-WETLAND)	
NEW HAMPSHIRE WETLANDS BUREAU & ARMY CORP OF ENGINEERS (PERMANENT WETLAND)	
TEMPORARY IMPACTS	

WETLAND DESIGNATION NUMBER
WETLAND IMPACT LOCATION
WETLAND MITIGATION AREA
MITIGATION

Wetland Impact Summary

Wetland Number	Wetland Classification	Location	Area Impacts: Permanent N.H.W.B (Non-Wetland) SF	N.H.W.B (Non-Wetland) LF	Permanent N.H.W.B & A.C.O.E (Wetland) SF	N.H.W.B & A.C.O.E (Wetland) LF	Temporary SF	Temporary LF	Linear Stream Impacts for Mitigation: Permanent Bank Left LF	Bank Right LF	Channel LF
1	PEM1E	A					24	3			
2	BANK	B					80	10			
3	L1UB12HB	C					56	8			
		Total									

Permanent Impacts: 0 S.F
Temporary Impacts: 160 S.F.
Total Impacts: 160 S.F.

NOTE: COFFER DAM WILL STOP FLOW THROUGH THE CULVERT

PAVEMENT CUT LINE

PEM1E

NB-PC

DW

DEWATERING BASIN

UNE CO-OP

115' TO CULVERT

85/15

REPLACE 24"x44' RCP WITH A 24" x 44' RCP

To Loudon

NH Rte 129

To Gilmanton

DELINEATED BY SARAH LARGE 5/17/19

EP

TOB

NHW

NB-PC

L1UB12Hb

HW

Rollins Pond

EROSION CONTROL PLAN LEGEND

PC	PERIMETER CONTROL SILT FENCE EROSION CONTROL MIX BERM EROSION CONTROL MIX SOCK TURBIDITY CURTAIN SHEET PILE COFFER DAM
NB-PC	NATURAL BUFFER/PERIMETER CONTROL SILT FENCE EROSION CONTROL MIX BERM EROSION CONTROL MIX SOCK TURBIDITY CURTAIN SHEET PILE COFFER DAM
CP	CHANNEL PROTECTION STONE CHECK DAMS STRAW WATTLES CHANNEL MATTING CLASS D EROSION STONE CLASS C STONE
CWB	CLEAN WATER BYPASS PUMP THROUGH PIPE DRAIN THROUGH PIPE OR CHANNEL

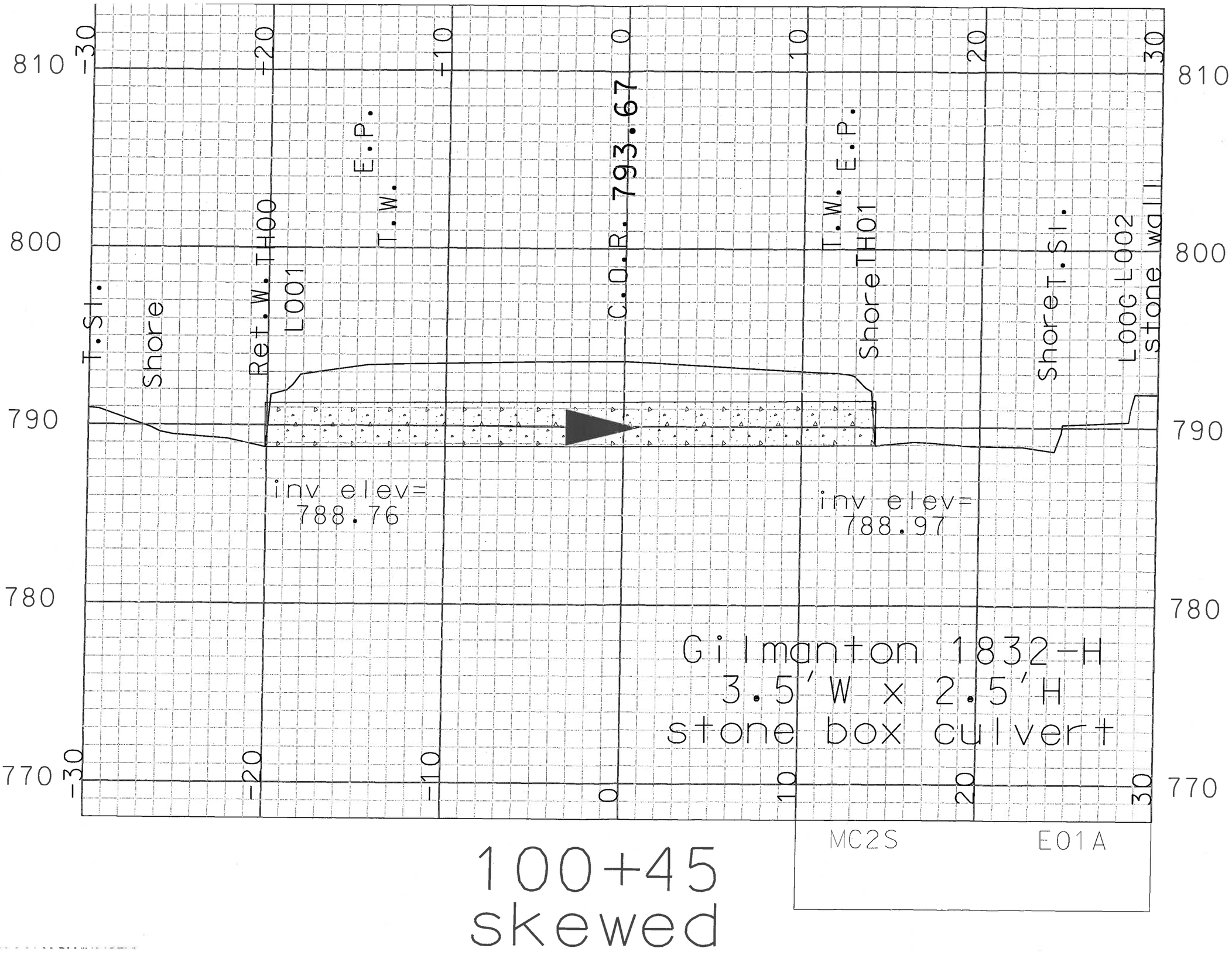
20 0 20 40

1" = 20'

Work Description

Replacing a 24" x 44' concrete culvert in-kind. work will be completed by placing a sandbag coffer dam at the inlet and outlet to stop flow through the pipe. An 8 feet trench will be excavated and a trench box placed to keep road from sloughing. Failed pipe will be removed and the new concrete pipe will be placed in the same location.

RollinsPdenv.dgn Default 7/25/2019 2:35:50 PM "N34SEL"



100+45
skewed

Culvert 1 (Rollins Pond) Construction Sequence

Work will begin by installing sediment control measures and a sandbag coffer dam on the inlet and outlet ends to stop the flow of water through the culvert. Dewatering will start and empty into an area of stone surrounded by silt socks along the road shoulder. Traffic control will be setup for alternating one way traffic. Half the pipe will be removed and replaced at a time with an 8 foot wide trench to use a trench box to help keep the roadway from sloughing. Once the pipe is replaced we will backfill with the same material that was excavated out. Erosion control measures will be applied to stabilize the bank. We will switch the traffic control to do the same process on the other half of the pipe. Once the work is complete on the second half, sandbag coffer dams will be removed, then the traffic control will be removed, roadway will be paved. Erosion control will be removed once seed has taken and everything is stabilized.

Culvert 2 (Tributary to Sanborn Brook) Construction Sequence

Work will begin by installing sediment control measures and a sandbag coffer dam on the inlet side of the box culvert to stop the flow of water through the culvert. Dewatering will start and empty into an area of stone surrounded by silt socks along the road shoulder. Traffic control will be setup for alternating one way traffic. Five feet of bank on either side of the outlet will be removed as well as the existing header. Stones of similar size and vintage of existing will be used to extend the culvert and construct a headwall. The culvert will only be extended by 4 feet so not to disturb the bend in the brook. Fabric will be placed on top of the top stones of the box culvert to stop erosion from the top down into the box and stream. Once the work is complete the sandbag coffer dam will be removed, the traffic control will be removed. Sediment control will be removed once seed has taken and everything is stabilized.

From: Bisignano, Christopher J CIV <Christopher.J.Bisignano@uscg.mil>
Sent: Wednesday, August 28, 2019 9:22 AM
To: Mills, Arin
Cc: Rousseau, James L CIV
Subject: RE: Coast Guard Review for DOT Culvert Work in Gilmanton (Project #2019-M315-1)

Arin,

We have no evidence these un-named tributaries ae navigable waterways of the U.S. under USCG Bridge program authorities. Therefore, no coordination with this agency is required.
Thank you for checking in with us on these projects.

Regards,
Chris

From: Mills, Arin
Sent: Tuesday, August 27, 2019 2:52 PM
To: Bisignano, Christopher J CIV
Cc: Rousseau, James L CIV
Subject: [Non-DoD Source] Coast Guard Review for DOT Culvert Work in Gilmanton (Project #2019-M315-1)

Chris (and Jim),

The NHDOT is proposing to conduct work on two culverts along NH Route 129 in Gilmanton and is looking for Coast Guard review for potential concerns from this project. The proposed project is: #1: replace a 24" wide x 44' long concrete culvert in-kind which carries an un-named tributary to Rollins Pond and #2 to extend an existing 2.5'H x 3.5'W stone box culvert up to 4' on the outlet side which carries an un-named tributary to Sanborn Brook. The project will require a wetland permit from DES. See attached map for location.

Please provide any concerns the Coast Guard may have as it relates to this project. Feel free to reach out if you have any additional questions or information as it relates to the project and I will be happy to assist.

Arin Mills
Environmental Manager, Operations Management
NH Department of Transportation
Bureau of Environment
7 Hazen Drive, Concord, NH 03302
Ph: (603)271-0187
Arin.mills@dot.nh.gov

From: Silvia, David
Sent: Thursday, October 17, 2019 11:58 AM
To: Mills, Arin
Subject: FW: Gilmanton - Culvert capacity analysis for two NH 129 Culverts (Rollins Pond Road & Upper City Road)

Arin,

Please let us know if the below is sufficient or if you need anything else?

Thanks

David M Silvia Jr
Access and Utilities
NHDOT District 3
(603) 524-6667

From: Fifield, Samantha
Sent: Thursday, October 17, 2019 11:53 AM
To: Silvia, David
Subject: Gilmanton - Culvert capacity analysis for two NH 129 Culverts (Rollins Pond Road & Upper City Road)

Hi David,

The following summarizes the analysis performed on the two crossing noted above.

Storm flows were calculated using Streamstats, hard copies of these outputs will be provided to you.

FHWA's Hydraulic Design Series No. 5 - Hydraulic Design of Highway Culverts was used to evaluate culvert capacity.

Culvert no. 1 – Rollins Pond Culvert

- The existing 24" reinforced concrete pipe will be replaced in kind.
- Streamstats output: The 50 year Storm generates 80.9 cfs of flow, the 100 year Storm generates 101 cfs of flow.
- According to the analysis performed on this culvert, the culvert is undersized. However, the analysis does not take into account the storage area provided by the wetland located directly upstream of the culvert. Also, this location does not have any history of flooding.

Given the lack of flood history and the adjacent wetland storage, replacing the culvert in kind seems appropriate. Moreover, if the culvert were to be upsized, it would, potentially, drain the wetland.

Culvert no. 2 – Upper City Culvert

- The existing 3.5' x 2.5' three sided stone box culvert will be lengthened an additional 4'.

- Streamstats output: The 50 year Storm generates 127 cfs, the 100 year Storm generates 157 cfs of flow.

- According to the analysis performed on this culvert, the culvert is undersized. However, the analysis does not take into account the storage areas provided by the three wetlands located upstream from the culvert. Also, this location does not have any history of flooding.

Given the lack of flood history, the upland wetland storage, and the fact that the intention of this culvert's work is to lengthen the culvert and not replace the crossing, maintaining the culvert's existing size seems appropriate.

Please do not hesitate to contact me if you have any questions.

Best regards,
Sam

Samantha D. Fifield, PE
Civil Engineer IV
Sponsor a Highway Coordinator
NHDOT Highway District Three
2 Sawmill Road
Gilford, NH 03249
Samantha.Fifield@dot.nh.us

603-524-6667
603-524-8027 (fax)